104

OVERSIGHT OF NASA'S INFRASTRUCTURE DOWNSIZING EFFORTS

Y 4.G 74/7:OV 2/14

Oversight of NASA's Infrastructure...

HEARING

BEFORE THE

SUBCOMMITTEE ON NATIONAL SECURITY,
INTERNATIONAL AFFAIRS, AND CRIMINAL JUSTICE

OF THE

COMMITTEE ON GOVERNMENT
REFORM AND OVERSIGHT
HOUSE OF REPRESENTATIVES

ONE HUNDRED FOURTH CONGRESS

SECOND SESSION

SEPTEMBER 11, 1996

Printed for the use of the Committee on Government Reform and Oversight

MAR 0 5 [illegible]

U.S. GOVERNMENT PRINTING OFFICE
43-979 WASHINGTON : 1997

For sale by the U.S. Government Printing Office
Superintendent of Documents, Congressional Sales Office, Washington, DC 20402
ISBN 0-16-055811-5

OVERSIGHT OF NASA'S INFRASTRUCTURE DOWNSIZING EFFORTS

Y 4. G 74/7: OV 2/14

Oversight of NASA's Infrastructure...

HEARING

BEFORE THE

SUBCOMMITTEE ON NATIONAL SECURITY,
INTERNATIONAL AFFAIRS, AND CRIMINAL JUSTICE

OF THE

COMMITTEE ON GOVERNMENT
REFORM AND OVERSIGHT
HOUSE OF REPRESENTATIVES

ONE HUNDRED FOURTH CONGRESS

SECOND SESSION

SEPTEMBER 11, 1996

Printed for the use of the Committee on Government Reform and Oversight

U.S. GOVERNMENT PRINTING OFFICE
43–979 WASHINGTON : 1997

For sale by the U.S. Government Printing Office
Superintendent of Documents, Congressional Sales Office, Washington, DC 20402
ISBN 0-16-055811-5

COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT

WILLIAM F. CLINGER, Jr., Pennsylvania, *Chairman*

BENJAMIN A. GILMAN, New York
DAN BURTON, Indiana
J. DENNIS HASTERT, Illinois
CONSTANCE A. MORELLA, Maryland
CHRISTOPHER SHAYS, Connecticut
STEVEN SCHIFF, New Mexico
ILEANA ROS-LEHTINEN, Florida
WILLIAM H. ZELIFF, Jr., New Hampshire
JOHN M. McHUGH, New York
STEPHEN HORN, California
JOHN L. MICA, Florida
PETER BLUTE, Massachusetts
THOMAS M. DAVIS, Virginia
DAVID M. McINTOSH, Indiana
RANDY TATE, Washington
DICK CHRYSLER, Michigan
GIL GUTKNECHT, Minnesota
MARK E. SOUDER, Indiana
WILLIAM J. MARTINI, New Jersey
JOE SCARBOROUGH, Florida
JOHN B. SHADEGG, Arizona
MICHAEL PATRICK FLANAGAN, Illinois
CHARLES F. BASS, New Hampshire
STEVEN C. LaTOURETTE, Ohio
MARSHALL "MARK" SANFORD, South Carolina
ROBERT L. EHRLICH, Jr., Maryland
SCOTT L. KLUG, Wisconsin

CARDISS COLLINS, Illinois
HENRY A. WAXMAN, California
TOM LANTOS, California
ROBERT E. WISE, Jr., West Virginia
MAJOR R. OWENS, New York
EDOLPHUS TOWNS, New York
JOHN M. SPRATT, Jr., South Carolina
LOUISE McINTOSH SLAUGHTER, New York
PAUL E. KANJORSKI, Pennsylvania
GARY A. CONDIT, California
COLLIN C. PETERSON, Minnesota
KAREN L. THURMAN, Florida
CAROLYN B. MALONEY, New York
THOMAS M. BARRETT, Wisconsin
BARBARA-ROSE COLLINS, Michigan
ELEANOR HOLMES NORTON, District of Columbia
JAMES P. MORAN, Virginia
GENE GREEN, Texas
CARRIE P. MEEK, Florida
CHAKA FATTAH, Pennsylvania
BILL BREWSTER, Oklahoma
TIM HOLDEN, Pennsylvania
ELIJAH CUMMINGS, Maryland

BERNARD SANDERS, Vermont (Independent)

James L. Clarke, *Staff Director*
Kevin Sabo, *General Counsel*
Judith McCoy, *Chief Clerk*
Bud Myers, *Minority Staff Director*

Subcommittee on National Security, International Affairs, and Criminal Justice

WILLIAM H. ZELIFF, Jr., New Hampshire, *Chairman*

ROBERT L. EHRLICH, Jr., Maryland
STEVEN SCHIFF, New Mexico
ILEANA ROS-LEHTINEN, Florida
JOHN L. MICA, Florida
PETER BLUTE, Massachusetts
MARK E. SOUDER, Indiana
JOHN B. SHADEGG, Arizona

KAREN L. THURMAN, Florida
ROBERT E. WISE, Jr., West Virginia
TOM LANTOS, California
LOUISE McINTOSH SLAUGHTER, New York
GARY A. CONDIT, California
BILL BREWSTER, Oklahoma
ELIJAH CUMMINGS, Maryland

Ex Officio

WILLIAM F. CLINGER, Jr., Pennsylvania
CARDISS COLLINS, Illinois

Robert Charles, *Staff Director and Chief Counsel*
Michele Lang, *Special Counsel*
Ianthe Saylor, *Clerk*
Dan Hernandez, *Minority Professional Staff Member*
Cherri Branson, *Minority Professional Staff Member*

CONTENTS

Page
Hearing held on September 11, 1996 1
Statement of:
    Goldin, Daniel S., Administrator, National Aeronautics and Space Administration, accompanied by Arnold Holz, Chief Financial Officer; John Dailey, Acting Deputy Administrator and Chief Operating Officer; General Spense Armstrong, ret., Personnel Reductions; Richard Reeves, LRC Fire Station, Plumbrook, Zero Base Review [ZBR]; David Harris, Wide Area Network Consolidation; Patricia Dunnington, Supercomputer Consolidation; William Brubaker, Facilities Consolidation; Mike Green, Environmental Issues; and Claude Fraener, Aircraft Consolidation 51
    Gross, Roberta, inspector general, National Aeronautics and Space Administration, accompanied by David Cushing, assistant inspector general for inspections and assessments, and Bruce Schmidt, Mike Morigeau, and Elaine Slaugh, auditors 25
    Schulz, Thomas J., Associate Director, Defense Acquisition Issues, National Security and International Affairs Division, General Accounting Office, accompanied by Frank Degnan, Assistant Director, Defense Acquisition Issues, National Security and International Affairs Division; Uldis Adamsons, Assistant Director, Defense Management Issues, National Security and International Affairs Division; and John de Ferrari, Assistant Director, Defense Information and Financial Management Systems, Accounting and Information Management Division 4
Letters, statements, etc., submitted for the record by:
    Goldin, Daniel S., Administrator, National Aeronautics and Space Administration, prepared statement of 54
    Gross, Roberta, inspector general, National Aeronautics and Space Administration, prepared statement of 30
    Schulz, Thomas J., Associate Director, Defense Acquisition Issues, National Security and International Affairs Division, General Accounting Office, prepared statement of 8

OVERSIGHT OF NASA'S INFRASTRUCTURE DOWNSIZING EFFORTS

WEDNESDAY, SEPTEMBER 11, 1996

House of Representatives,
Subcommittee on National Security,
International Affairs, and Criminal Justice,
Committee on Government Reform and Oversight,
Washington, DC.

The subcommittee met, pursuant to notice, at 11 a.m., in room 2247, Rayburn House Office Building, Hon. Mark E. Souder presiding.

Present: Representatives Souder, Thurman, and Slaughter.

Also present: Representative LaTourette.

Staff present: Robert B. Charles, staff director and chief counsel; Michele Lang, special counsel; Ianthe Saylor, clerk; and Dan Hernandez, and Cherri Branson, minority professional staff members.

Mr. Souder. The Subcommittee on National Security, International Affairs, and Criminal Justice will come to order.

Today, I want to welcome our witnesses, Mr. Daniel Goldin, Administrator of the National Aeronautics and Space Administration; Ms. Roberta Gross, inspector general for NASA; and Mr. Thomas Schulz, Associate Director of Defense Acquisition Issues, National Security and International Affairs Division of the General Accounting Office.

Since the early 1990's, NASA's planned budget has decreased sharply from a projected fiscal year 2000 budget of more than $20 billion in 1994 to a projected fiscal year 2000 year budget of less than $13 billion today. In response to these budget shortfalls, Mr. Goldin announced before the House Committee on Science, Subcommittee on Space and Aeronautics, in 1995, that he would achieve these budget reductions by reducing infrastructure, including consolidating and closing facilities.

Subsequent to his announcement, Mr. Goldin initiated a number of infrastructure downsizing proposals, which included personnel cuts, aircraft consolidation, wide area telecommunications network consolidation, supercomputer consolidation. In addition, NASA again began exploring ways to maximize economies of scale by joining DOD and NASA support activities. I commend Mr. Goldin for these efforts. Downsizing decisions are never easily made and they always seem to result in controversy.

We learned from the Department of Defense infrastructure downsizing efforts that objective and well-supported decisions, after thorough analysis, are the best defense to the fire storms that brew around infrastructure consolidation and closure efforts. To this goal, NASA has been less successful.

Today's oversight hearing on NASA's infrastructure downsizing efforts is a culmination of the work the General Accounting Office has done on behalf of this subcommittee for the last year. We will be reviewing a number of NASA proposals which have drawn criticism to determine if there is a problem in NASA's decisionmaking process and, if so, what corrections need to be made.

I want to thank the multiple divisions at GAO for the thorough examination they have conducted of NASA's downsizing efforts. GAO's work has resulted in a number of reports, including one on NASA's telecommunications network consolidation, one on the NASA chief information officer, a report entitled "NASA Infrastructure: Challenges to Achieving Reductions and Efficiencies," which I will be releasing today. Additionally, GAO will be releasing in the near future a report addressing NASA environmental issues.

Additionally, I would like to thank and acknowledge the NASA Office of Inspector General for their persistent pursuit in ensuring that NASA downsizing decisions are cost beneficial. The NASA Office of Inspector General has conducted three separate analyses of NASA's aircraft consolidation proposals over the last year and recently issued an assessment of NASA's recent closing of the Lewis Research Center Fire Station.

As a result of GAO's and NASA OIG's work, a number of criticisms and concerns have arisen regarding the process by which NASA has made some of its infrastructure downsizing decisions. Among those concerns are findings that there has been an almost uniform absence of cost benefit of any fiscal analysis used in decisionmaking processes. When cost analyses were done, projected savings were substantially overstated and that gaining centers were tasked to conduct studies while other affected centers were not provided opportunity for input. All of these concerns have fueled perceptions of a lack of fairness and impartiality in the decisionmaking process and, if not corrected, will ultimately diminish the credibility of future infrastructure downsizing decisions.

In the infrastructure report released today, GAO has indicated that an external independent process similar to DOD's Base Closure and Realignment Commission may be necessary. While neither GAO nor the subcommittee is ready to take that course of action at this time, I believe there is an immediate need for corrective action.

This subcommittee looks forward to hearing the GAO's and the NASA inspector general's analysis and concerns on a number of NASA efforts and the Administrator's response. Mr. Schulz will discuss NASA's efforts in the wide area telecommunications network consolidation, supercomputer consolidation, potential DOD/NASA cooperative sharing. Ms. Gross will address aircraft consolidation and the closing of Lewis Fire Department. Mr. Goldin will provide insight into the administration's efforts in these areas and respond to some of the concerns raised by GAO and the NASA IG.

I want to again thank the witnesses for their patience and for their presence here today.

I am delighted to recognize the gentlelady from Florida, the ranking member of the subcommittee, Mrs. Thurman.

Mrs. THURMAN. Thank you, Mr. Chairman. I would like to first thank our guests who have taken time out of their busy schedules to advise the subcommittee on the progress of NASA downsizing.

For several years now, NASA has braved the intense scrutiny of Congress. The product of these examinations, focusing on NASA management, has been reports concluding that NASA should pursue various reforms, including changes in its method of contracting, more reliable budget estimations, and implementing facility releasing and acquisition practices into its overall strategic plan.

I think that most Americans agree that running an efficient agency, without overlap and wasteful spending, is essential to America's economic and scientific future. However, such changes often run headfirst into political and financial barriers. Nevertheless, I hope that this oversight hearing will focus on the fiscal realities of remodeling NASA's operational structure while maintaining a space program other nations look to with reverence.

I believe NASA's Zero-Base Review was a good start. However, I concur with the GAO report that NASA still has a long way to go. But let us not forget that NASA is an agency that provides benefits to every household in America, not just scientists and the high tech industry. While Congress must take some form of corrective action to assist NASA in its downsizing efforts, we should not overlook the agency's successes: the development of communications and weather satellites, research in aeronautics that has improved performance and safety, numerous shuttle flights and the ambitious international space station.

I commend Administrator Goldin on his efforts to meet NASA's reduction goals. While additional work needs to be done on environmental cleanup, infrastructure reduction, and aircraft consolidation, I applaud NASA's independent study on telecommunications consolidation and their current surveys that identify potential environmental hazards on its facilities.

I would also like to commend NASA on its attempts to overhaul its contracting system, meet its goal of civilian work force reduction and still maintain a quality space program. I am sure that together we can work to make NASA a more successful and more efficient agency, one that will continue to be the world's leader in space exploration and research.

The time our witnesses have devoted to this effort is greatly appreciated, and I look forward to assisting NASA and Administrator Goldin in any way which would facilitate NASA's realization of these goals.

Thank you.

Mr. SOUDER. Thank you. And we will leave the record open for 10 days for additional opening statements.

We are joined today also by a fellow freshman from the neighboring State of Ohio, Steve LaTourette.

We are happy to have you here for our hearing as well.

Mr. LATOURETTE. Thank you.

Mr. SOUDER. You can also feel free to insert your statement in the record.

Mr. LATOURETTE. Thank you.

Mr. SOUDER. Since this is an oversight committee, we traditionally swear in all of our witnesses. I assume the other gentlemen with you, Mr. Schulz, are also from GAO?

Mr. SCHULZ. That is correct.

Mr. SOUDER. If you want to have them have the ability to discuss, maybe you could all stand up and take the oath.

Mr. SCHULZ. Very well.

[Witnesses sworn.]

Mr. SOUDER. Let the record show that the witnesses responded in the affirmative.

Mr. Schulz.

STATEMENT OF THOMAS J. SCHULZ, ASSOCIATE DIRECTOR, DEFENSE ACQUISITION ISSUES, NATIONAL SECURITY AND INTERNATIONAL AFFAIRS DIVISION, GENERAL ACCOUNTING OFFICE, ACCOMPANIED BY FRANK DEGNAN, ASSISTANT DIRECTOR, DEFENSE ACQUISITION ISSUES, NATIONAL SECURITY AND INTERNATIONAL AFFAIRS DIVISION; ULDIS ADAMSONS, ASSISTANT DIRECTOR, DEFENSE MANAGEMENT ISSUES, NATIONAL SECURITY AND INTERNATIONAL AFFAIRS DIVISION; AND JOHN DE FERRARI, ASSISTANT DIRECTOR, DEFENSE INFORMATION AND FINANCIAL MANAGEMENT SYSTEMS, ACCOUNTING AND INFORMATION MANAGEMENT DIVISION

Mr. SCHULZ. Good morning, or should I say "Erin go bragh."

I have some introductions and requests before I present about a 6-minute statement of my summary, Mr. Chairman. First, this statement I am about to present is based principally on a recent report to the committee on the challenges NASA faces in achieving infrastructure reductions and efficiencies.

With your permission, I would like it and the full text of my statement entered into the record.

Mr. SOUDER. If there is no objection, it is inserted in the record.

Mr. SCHULZ. Thank you, sir.

Accompanying me are Frank Degnan, who is GAO's Assistant Director for NASA programs; John de Ferrari over here—de Ferrari. His name is Ferrari on there; I thought that was better, actually. And Uldis Adamsons. Uldis and John are Assistant Directors responsible for the work we are doing for the subcommittee on environmental issues, telecommunications, and information technology stuff.

I am pleased to be here today to discuss our observations on NASA's efforts to reduce key areas of its infrastructure, especially facilities. My testimony focuses on why NASA has to cut its infrastructure, the progress and problems experienced by NASA, and what further efforts are needed.

NASA's infrastructure, the underlying foundation for agency operations, includes people, facilities, equipment, business processes, and information systems. The NASA of the early 1990's, with high expectations of an annual budget of more than $20 billion by the turn of the century, does not exist anymore. Since fiscal year 1993, NASA's planned budget and staffing levels have decreased sharply.

For example, the total of the planned budgets for fiscal years 1993 through fiscal year 2000 have been lowered from $122 billion to $82 billion. In response, NASA has taken some actions. Major programs such as the space station have been reduced and restructured. Some projects have lost their funding and have been canceled and infrastructure reductions are under way or projected.

A NASA with fewer personnel, fewer missions, and reduced funding needs to work in a more integrated manner with fewer facilities, and it should be able to consolidate or close some of them.

NASA knows that it has excess capacity in its facilities, and it has plans to eliminate about 4 billion dollars' worth of its facilities by the end of fiscal year 2000. NASA has made some progress in downsizing its facilities and personnel infrastructure, but its actions to date and barriers to further progress that we and others have indicated—have identified indicate that NASA still has a long way to go. It may not be able to presently and successfully downsize its infrastructure on its own. Our report says, in summary, that current planned facilities reductions will not meet NASA's reduction goals nor yield substantial cost savings.

In addition, NASA has had problems in evaluating some cost-reduction opportunities; environmental cleanup costs could affect future facility disposition. Its recent efforts to share facilities with the Department of Defense have not yet been very productive. We noted that closing facilities, relocating activities and consolidating operations in fewer locations with fewer employees have been slowed by parochial concerns about the effect of such actions on missions, personnel, and local communities. These concerns, which are both internal and external to NASA, are exacerbated by perceptions of the lack of fairness and impartiality in the decisionmaking process.

As we reported to Senator John Glenn last month, before NASA can decrease the size of its planned work force to about 17,500 by fiscal year 2000, it needs to effectively plan for major work force uncertainty, including the potential for a reduction in force, plans to shift program management from the Washington, DC, headquarters, and the management of the space shuttle at Kennedy Space Center by a single contractor.

As both of you in your opening statements indicated, because of the controversy that surrounds any major decision concerning NASA downsizing, NASA should make objective and well-supported closure and consolidation decisions after fairly and thoroughly considering the reasonable alternatives. However, NASA has not always done so.

NASA personnel have not thoroughly evaluated potential larger cost reduction options and have limited the scope of consideration for consolidation. Further, they have performed questionable initial cost reduction studies, made inappropriate closure recommendations, and substantially overstated cost reduction estimates.

Now, we have had concerns about this in the past since 1992, and so has the inspector general. The report that you released today discusses problematic examples of NASA's proposals to consolidate its wide area telecommunications network at one field center without thoroughly evaluating other cost reduction options. It initially excluded about 40 percent of its supercomputers from its consolidation study.

We note the NASA inspector general questioned the scope and quality of NASA analyses supporting its plan to consolidate aircraft operations. We also note that NASA projected hundreds of millions of dollars in cost reduction opportunities that ultimately proved to be invalid because the underlying figures and assumptions were unrealistic or insupportable.

We also note NASA's progress in reducing its facilities will obviously be affected by its actions to identify the extent of costs for cleaning up environmental contamination and by its success in identifying and pursuing cost-sharing opportunities in the future.

Last year, NASA teamed with DOD to study how the two agencies could significantly reduce their operational costs and increase mission effectiveness and efficiency through increased cooperation and sharing. We monitored three of the seven study teams: major facilities, space launch activities, and base-center support and services. The recently completed studies of space launch and other major facilities did not recommend specific facility consolidations or closures or identify cost reductions. They did reconfirm that there are cost-reduction opportunities and identified barriers to accomplishing consolidations and closures.

They identified another more generic factor that limits the extent of closures and consolidations, what they call, and what we agreed to call, the old paradigm. That is, each NASA and DOD center or laboratory wants to protect its ability to maintain technical expertise and competence.

They noted that recommending facility consolidations and closures were still difficult since such actions were still too politically insensitive and could result in near-term cost increases rather than cost reductions.

According to NASA and DOD officials we talked to, a process similar to the one used by the Defense Base Closure and Realignment Commission, the BRAC process, ultimately would be needed to overcome the political sensitivity and cost issues. We would endorse the idea of having such a BRAC-like process if continuing efforts failed to show significant progress.

The third study we looked at, the Base Center and Support Services Study, reported over 500 existing support arrangements and identified additional cooperative opportunities. It identified changes to activities at several locations and it expects such changes to lower the agency's costs by millions of dollars. The study said also that many more sharing arrangements are possible and should be included in follow-on studies, but they also cited specific barriers that needed to be addressed. Overall, about a dozen studies related to NASA's facilities infrastructure have been conducted over the last 6 years, one of which, by the way, includes a recommendation to consider the BRAC process in the NASA consolidation closures.

We reviewed the status of over 100 recommendations related to infrastructure. We found that many had been fully or partially implemented. However, it was difficult for us to ascertain the status of these recommendations because NASA did not have a formal system to track and report on the status of most recommendations.

While NASA essentially has been responsive to these past studies, projected decentralization and downsizing of program management will require more systematic means of monitoring the results of future and ongoing studies, including the joint efforts with other agencies such as the one we talked about with the Department of Defense. A monitoring and tracking system would help NASA, among other things, ensure timely implementation of future recommendations.

In conclusion, despite some progress in reducing its infrastructure, NASA faces formidable challenges to successfully reaching its budget goals for fiscal year 2000. If NASA cannot find sufficient cost reductions in its infrastructure to meet these goals, the agency will likely again have to adjust its programs, stretching out, reducing the scope, terminating existing efforts, and-or postponing new initiatives. Even with NASA management's commitment to meeting these goals without making those adjustments, the environment confronting the agency will not allow it to readily overcome the barriers it faces. This is why we believe NASA should submit a plan to you, to Congress, on how to meet the fiscal year 2000 infrastructure targets. Based on that plan and any further progress by NASA, Congress could consider establishing an independent process to facilitate closure and consolidation of NASA facilities.

That concludes my prepared statement, Mr. Chairman. We would be happy to answer any questions you or others might have.

[The prepared statement of Mr. Schulz follows:]

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss our observations on the National Aeronautics and Space Administration's (NASA) efforts to reduce key areas of its infrastructure–especially facilities.[1] My testimony focuses on (1) why NASA has to cut its infrastructure, (2) the progress and problems experienced by NASA in achieving reductions and efficiencies, and (3) what further efforts are needed. It is based principally on our recent report on the challenges NASA faces in achieving infrastructure reductions and efficiencies.[2]

NASA's infrastructure–the underlying foundation for agency operations–includes people, facilities, equipment, business processes, and information systems. The NASA of the early 1990s, which was supporting an infrastructure and programs with a projected annual budget of more than $20 billion by the turn of the century, does not exist anymore. The more recent and significantly lower out-year budget projections will result in a much smaller NASA. Since fiscal year 1993, NASA's planned budget and staffing levels have decreased sharply. For example, planned budgets for fiscal years 1993 through fiscal year 2000, have been lowered from $122 billion to $82 billion.[3] In response, major programs, such as the Space Station and the Earth Observing System, have been reduced and restructured, some projects have lost their funding and have been canceled, and infrastructure reductions are underway and further reductions are planned.

---

[1] NASA defines facilities as land, buildings, structures, permanently located trailers, and other real property improvements, including utility systems and collateral equipment that is essentially integrated into the facility.

[2] NASA Infrastructure: Challenges to Achieving Reductions and Efficiencies (GAO/NSIAD-96-187, Sept. 9, 1996).

[3] As indicated in the Administration's fiscal year 1996 budget request.

A NASA with fewer personnel, fewer missions, and reduced funding needs to work in a more integrated manner with fewer facilities and should be able to consolidate or close some of them. NASA knows that it has excess capacity in its facilities, and it plans to eliminate $4 billion worth of its facilities by the end of fiscal year 2000.[4] NASA has made some progress in downsizing its facilities and personnel infrastructure, but its actions to date and barriers to further progress that we and others have identified indicate that (1) NASA still has a long way to go and (2) it may not be able to successfully downsize infrastructure, especially facilities, on its own. Currently planned facilities reductions will not meet NASA's reduction goal nor yield substantial cost reductions. In addition, NASA has had problems in evaluating some cost-reduction opportunities; environmental cleanup costs could affect future facility disposition efforts; and its recent efforts to share facilities with the Department of Defense (DOD) have not yet been very productive. Finally, closing facilities, relocating activities, and consolidating operations in fewer locations with fewer employees have been slowed by parochial concerns about the effects of such actions on missions, personnel, and local communities. These concerns have been exacerbated by perceptions of the lack of fairness and impartiality in the decision-making process.

NASA also faces another set of challenges before it can decrease the size of its planned workforce to about 17,500 by fiscal year 2000. As we reported to Senator John Glenn last month,[5] NASA needs to effectively plan for major workforce uncertainties, including the potential for a possible reduction-in-force, plans to shift program management from the Washington, D.C., headquarters, and the management of the space shuttle at Kennedy Space Center by a single contractor.

---

[4] The $ 4 billion represents the current replacement value, which is the acquisition cost of facilities, excluding land, plus the cost of collateral equipment and incremental book value changes escalated to the current year using a 20-city average cost index for buildings.

[5] NASA Personnel: Challenges to Achieving Workforce Reductions (GAO/NSIAD-96-176, Aug. 2, 1996).

Because of the controversy that surrounds any major decision, NASA should make objective and well-supported closure and consolidation decisions after fairly and thoroughly considering reasonable alternatives. However, NASA has not always done so. NASA personnel have (1) not thoroughly evaluated potential larger cost-reduction options, (2) limited the scope of consideration for consolidation, (3) performed questionable initial cost-reduction studies, (4) made inappropriate closure recommendations, and (5) substantially overstated cost-reduction estimates.

In the past, we have expressed concerns about NASA's ability to accurately and independently develop cost estimates to support its decisions on new and ongoing programs and projects.[6] Just recently, the NASA Inspector General[7] and management have been discussing the structure needed to conduct independent, impartial, and technically credible systems analysis and program evaluation.

NASA decided to consolidate its wide area telecommunications networks at one field center without thoroughly evaluating other cost-reduction options, and it initially excluded about 40 percent of its supercomputers from consolidation study. Moreover, the NASA Inspector General questioned the scope and quality of NASA's analyses supporting its plan to consolidate aircraft operations. In other cases, NASA projected hundreds of millions of dollars in cost-reduction opportunities that ultimately proved to be invalid because the underlying figures and assumptions were unrealistic or insupportable.

---

[6] Space Programs: NASA's Independent Cost Estimating Capability Needs Improvement (GAO/NSIAD-93-73, Nov. 5, 1992).

[7] Assessment of the Relocation of NASA Independent Program Evaluation and Assessment Activities to Langley Research Center, NASA Office of Inspector General, Inspections and Assessments (July 8, 1996).

We should also note that NASA's progress in reducing its facilities infrastructure will be affected by its ongoing actions to identify the extent of the costs for cleaning up environmental contamination at many of its facilities and by its success in identifying and pursuing cost sharing opportunities in the future. We were encouraged to recently learn that NASA intends to complete a policy statement by the end of 1996 to address the issue of potential responsible parties at NASA facilities requiring environmental remediation.

Last year, NASA extended its search for infrastructure efficiencies outside the agency. It teamed with DOD to study how the two agencies could significantly reduce their operations costs and increase mission effectiveness and efficiency through increased cooperation and sharing. Study teams, referred to as integrated product teams, began work in September 1995 in seven areas. We monitored three teams: major facilities, space launch activities, and base/center support and services. However, the recently completed studies of space launch and other major facilities did not recommend specific facility consolidations or closures or identify cost reductions. They did reconfirm there are cost-reduction opportunities and identified barriers to accomplishing consolidations and closures, including differences in each agency's cost accounting systems, practices, and standards.

NASA and DOD officials also identified another, more generic factor that potentially limits the extent of closures and consolidation: the "old paradigm"–that is, each NASA and DOD center or laboratory wants to protect its ability to maintain technical expertise and competence. Some personnel have realized the need for greater sharing or dependence on the other organization's technical capabilities, but recommending facility consolidations or closures was still difficult since such actions were "too politically sensitive" and could result in near-term costs increases, rather than cost reductions.

According to NASA and DOD officials, a process similar to the one used by the

Defense Base Closure and Realignment Commission may ultimately be needed to overcome the sensitivity and cost issues. Given NASA's limited progress to date, further opportunities to reduce facilities infrastructure, and the agency's lack of control over some barriers to further reductions, we would endorse the idea of having such a process if continuing efforts fail to show significant progress soon.

The base/center support and services team, which was responsible for recommending ways to increase cooperation in base/center support and services, found over 500 existing support arrangements and identified additional cooperative opportunities. It identified changes to activities at several NASA locations, and it expects such changes to lower the agencies' costs by millions of dollars. However, the team cited specific barriers, such as different negotiated wage rates for support service contractors, which could require paying the higher rate, thereby substantially or totally offsetting consolidation cost reductions. In other cases, merging certain activities could complicate procurements in small and disadvantaged business set-aside programs. However, the team said that many more sharing arrangements are possible and should be included in follow-on studies.

Overall, about a dozen studies related to NASA's facilities' infrastructure have been conducted over the last 6 years, and many recommended ways to improve the effectiveness of the nation's aeronautics and space facilities. We reviewed the status of over 100 of the recommendations to determine to what extent they had been implemented and found that most had been fully or partially implemented or were scheduled to be implemented. However, it was difficult for us to ascertain the implementation status for the recommendations we reviewed because NASA did not have a formal system to track and report on the status of most recommendations related to infrastructure reductions. While NASA has essentially been responsive to past studies, projected decentralization and downsizing of program management will require a more systematic means of monitoring the results of ongoing and future studies. Such studies are likely to be in more detail and thus require more time to complete than those undertaken to date, and they will include joint efforts with other agencies, such as DOD. Under such circumstances, a monitoring and tracking system would help NASA management measure the progress of closure and consolidation studies, ensure timely implementation of their recommendations, and demonstrate its continuing interest in achieving efficiencies.

In conclusion, despite some progress in reducing its infrastructure, NASA faces formidable challenges to successfully reaching its budget goals through fiscal year 2000. Ultimately, if NASA cannot find sufficient infrastructure cost reductions to meet these goals, the agency will likely have to once again adjust its programs--stretching out, reducing the scope, terminating existing efforts, and/or postponing new initiatives. Even with NASA's management commitment to meeting goals without making such adjustments, the environment confronting the agency will not allow it to readily overcome the many barriers it faces. This is why we believe that NASA should submit a plan to Congress on how to meet the fiscal year 2000 infrastructure targets. Based on that plan and any further progress by NASA, Congress could consider establishing an independent process to facilitate closure and consolidation of NASA facilities.

- - - - -

This concludes my prepared statement, Mr. Chairman. I would be happy to respond t any questions you or the Members of the Subcommittee may have at this time.

(707205)

Mr. SOUDER. Well, let me take a whirl at a couple.

One, in relationship—I am intrigued by the whole NASA/DOD interaction question. You noted that one outstanding issue is a large rocket test stand capacity.

What would be some other types of issues between an ability—I mean, we are looking, in many cases, where you are saying that there are duplicative processes? Where are some overlaps and where have problems occurred?

Mr. SCHULZ. One of the areas—they have established is a set of followup, what they call alliances, to look at various areas—other areas, including launch infrastructures, the building of new launch vehicles, et cetera. There is a series of seven of them which—Frank can give you the list in a minute, if you wish. But one of the issues that we have been asked to look at by your companion committee in the Senate, the Senate's Governmental Affairs, is to look at the research laboratories; and we are looking at that, not only for that committee and not only in the context of NASA, but DOD and the Department of Energy and other agencies. So there are just many opportunities.

The issue we want to make there, Mr. Chairman, is the fact that at some point in time we have to look at these things because one of the barriers that we are facing is that we are looking at consolidation just within the scope of one agency. We are starting to look now, if the budget restrictions are as they are. We have to start to look at more opportunities to look across agency lines—DOD, NASA, DOE, DOT in some instances—and start to think about maybe there should be more intergovernmental sharing and cooperation. That is why we think the NASA/DOD effort is a positive one, but it is really just the beginning.

Mr. SOUDER. Well, some of the political concerns that arise are obvious. Obviously, wherever jobs are transferred from one place to another, you have political problems, which is partly why we did the Base Closure Commission, partly what you are saying, the external forces. But somewhere in here we run into some internal problems, as well, when we start looking across departmental. I am intrigued by just a couple of different pressures here, and I wanted to see how the examples you raised relate to these different things.

One is that obviously there are certainly national security questions that arise, and I am sure those are heavily raised on the Defense Department side. Particularly as we push NASA to privatize and as they are carrying private payloads and increasingly involved in the private sector or in international joint ventures with Russia and other nations, which at different times may or may not be hostile to us. And we may have information going out.

How feasible is it, realistically, to start merging research capacities? I mean, how fast can that be accelerated, given the traditional resistance in the national security area? And how would—quite frankly, the other side is that if the national security side gets the balance, how do you balance the scientific goals of the NASA mission so it doesn't get overrun by a military goal?

Mr. SCHULZ. OK. I will try to answer the question.

Mr. SOUDER. The question is, as we downsize both Defense and NASA—and you are saying we should do cross-jurisdiction, are we going to run into, and how serious are those substantive things that the agencies have different missions and may or may not be able to jointly pool resources?

Mr. SCHULZ. The other—one of the other hats I wear, Mr. Chairman, is and has been looking at the national intelligence community and the DOD space efforts. I am aware there are areas of cooperation that do not necessarily—obviously, I can't speak to them here, but there are areas of cooperation between all these agencies right now in certain areas dealing with national security.

In many instances, your national security community and your intelligence community actually use contractors to do their kind of activities, to build satellites, to launch the vehicles and the payloads, et cetera. So in the context of that, as far as operations, there are some opportunities to continue to work to share certain locations, to share certain contractor activities; and in some instances, that is done.

In the context of ability to share facilities in the security context of maybe having access and all of that, I think there are some concerns there in the national security area, but I think what we are looking for is an effort. In the context of the issues that the DOD and NASA study have identified, there are still quite a lot of opportunities, without even getting into the areas of your concern, to share costs, to cooperate and consolidate.

Mr. SOUDER. Well, do you have any idea what potential cost savings there might be in those remaining areas?

Mr. SCHULZ. Not at the moment, no, sir. There are—the conclusion is, without necessarily being specific about it—by the NASA/DOD study itself, all the studies—is that there are quite a few opportunities to reduce costs. And NASA and DOD are claiming several hundreds of millions of dollars of costs in operational savings already.

Mr. SOUDER. OK. Thank you.

Mrs. Thurman.

Mrs. THURMAN. Mr. Schulz, did the GAO identify in some of these field offices or field centers, any of those that, in your opinion, you believed could be consolidated or closed?

Mr. SCHULZ. Yes. I think I'd better take that. That gets me into that political sensitivities area.

There are some that clearly we have had—some would clearly think that they should have been closed sooner—some, there were opportunities that could have been recognized sooner. And some of these concerns were talked about, as far as external and internal concerns, and have stopped certain things from closing sooner.

For example—the Yellow Creek facility, Frank, was one that had to be closed, for example; that is being closed by NASA now. But as far as we are concerned, it could have been many, many, and I think NASA agrees, it could have been closed many, many years sooner than it was.

Frank, do you want to add to that?

Mr. DEGNAN. Well, there are other examples of that sort of thing. Certainly, for years, there has been consideration of making the Palmdale-Downey situation out on the west coast more efficient. There has been some back and forth relative to actually making some changes, either to improve the efficiency of the operations or to close the entire, or at least part of those facilities.

And the record shows that, it is over a number of years where these attempts have been made, and for one reason or another, it has always been changed to sort of the status quo.

In terms of Downey right now, there is a firm proposal, if you will, on the books with the city of Downey to transfer a good piece of that facility. Palmdale, apparently, the current status is it will await the decision of the new consortium operator of the shuttle, the USA, United Space Alliance, to determine if they need it in their operation; and then I would suppose, if they don't, we are back where we were before with what to do with Palmdale. The IG has addressed this in the past also and has suggested that activity at Palmdale be moved elsewhere.

Mrs. THURMAN. So we are into the politics of it more than the—so that leads me to, then, what might be the second question in your recommendation of possibly looking at somewhat of a BRAC commission?

Have you talked with NASA about that? Has that been explored? I mean, it seems to be that if these are political sensitive areas, that that would be why your recommendation has been made and—if, in fact, it has that been discussed at all.

Mr. SCHULZ. NASA was silent when they responded to our report that had that consideration in there. However, as I indicated before, I think it was in 1994, there was a study that was chartered by NASA that recommended this—this be considered. I don't think this is a secret to anybody about the situations that NASA faces, one that is widely distributed across the country. It affects jobs, highly paid, valuable jobs, and contracts all throughout the country.

As we talked about the old paradigm—in fact, I have to admit I did talk about it in the context of a contractor, a major contractor in this country who is in the process of downsizing its laboratories and the process they went through; they briefed us on it. And I asked them if there is the possibility of something similar at NASA, and he says, well, NASA, all the centers are at war with each other. So that is part of the issue.

The answer is, it is extremely difficult for NASA—both the way it is organized and structured, and despite the current Administrator's attempts to take control and because of the other issues, obviously, I am sensitive about talking about in front of you—for them to achieve these things.

And Congress made a decision that with regard to defense locations, there was a point in time when national interest had to be considered and you had to work a process, which has worked.

We are not—GAO is reviewing the BRAC process. We have had criticisms of it, but the bottom line is, it has been successful in achieving what you all intended it to do, which is to give an opportunity for these very hard decisions to be made in total so that it can be considered as a national interest concern.

Mrs. THURMAN. On another issue in your report by reaching the fiscal year 2000, the $4 billion that has been referred to, and there is a consideration or a concern that, in fact, you don't think that they can reach those savings. Can you expand on that at all as to why you think that may not be able to be achievable?

Mr. SCHULZ. Frank, why don't you take that one?

Mr. DEGNAN. Well, actually we have not concluded that they can't reach the savings. We express doubts based on the minimal contribution that certain elements of the infrastructure reduction will make to the total. We have not looked at every aspect of infrastructure reduction. The major one is the support service contractor area, where based on their Zero-Base Review, NASA intended to reduce that by about 10,000. We have not even touched that subject.

So our commentary really is prospective in the sense that if they don't get all the savings they need from the infrastructure effort, they will have to go back to what they have been doing up to date, and that is to slip programs and to make other changes; and some of that happens naturally. It is very difficult to separate what is happening in that area as a result of a budgetary slip or a budgetary concern versus what is essentially the result of just normal programmatic activity where the contract was not ready to be issued on time, et cetera.

So the distinction—it is hard to make those distinctions. But we have not concluded anything with regard to their ability to achieve the budget targets. Clearly, they can do it. It is a question of whether or not it can all come out of infrastructure or whether it will have to be a combination of infrastructure along with the programmatic adjustments.

Mr. SCHULZ. We do say in our report that some of the assumptions, some of the projections they made which generate that figure, have not been—have not stood up. So that obviously is where our concern is. We didn't do a detailed study, but clearly some of the big savings didn't materialize. Ergo, we say how are you going to reach this?

It is considered to be a "stretched goal" by NASA to reach that. They claim that it got up—that represents about a 25-percent reduction.

Is that correct, Frank?

Mr. DEGNAN. Yes, that's right.

Mr. SCHULZ. They say they have achieved about 18 percent, and they will try to get the others. We, being the official doubters of Washington, DC, say, well, we doubt that.

Mrs. THURMAN. OK. The red light comes on for us, too.

Mr. SOUDER. Congressman LaTourette has had an interest in this subject for a long time, as long as a freshman can in 2 years, and we are really privileged to have him here today. I am pleased that he is here and would like to, at the chairman's discretion, extend him the opportunity to question as well.

Mr. LATOURETTE. Mr. Chairman, I don't have any questions of this panel. I want to take the time to thank the subcommittee. Since I am a member of the full committee and not this subcommittee, I don't have the pleasure of serving on the subcommittee, but you have given me that opportunity.

The Lewis Research Center sits on the west side of Cleveland, and some of the questions that I have of panels two and three, I look very much forward to the opportunity to ask those questions. I thank you and the ranking member for your courtesy of letting me be here.

Mr. SOUDER. Thank you.

I have some additional questions.

Mrs. THURMAN. Sure.

Mr. SOUDER. If you want to, as well, we will operate fairly informally here since there are so many of us here today.

I wanted to follow up with a question. In your report, you discuss the excess current replacement value as one of the substantive problems in a lot of this. Could you explain what you mean by "excess current replacement value"?

Mr. SCHULZ. I am going to have Frank explain that, because he has been trying to explain that to me for quite awhile.

Mr. DEGNAN. Obviously I haven't succeeded.

The concept of CVR, as it is applied in NASA, basically starts with the actual acquisition cost of a physical facility. Added to that cost baseline are any of the major modifications or improvements that are made to that facility. And as the time passes each year, they apply an inflation index, which is based on a 20-city average cost, in order to keep relatively apace of what it would cost to replace the facility.

Now, this is in lieu of doing engineering-based estimates, which would be very costly to obtain. The CRV is not a precise measure of what it would cost to replace a facility. It is a proxy, but it is a good one from two standpoints: No. 1, it does provide a consistent measure across NASA so that you do get a picture, in terms of the overall figures, as to where most of the physical plant investment is in the agency. Second, the number does serve the purpose as a baseline measure against which your repair and maintenance costs can be compared.

The National Research Council has recommended, as guidance, a 2- to 4-percent replacement cost expenditure each year in order to keep facilities in good shape. We have looked at that in the past and found that NASA fell, varying along the line from 1 percent to 2-something. Only a few of the centers were spending according to that guidance, and that presents a dilemma to the agency.

As far as using it as a measure to get a handle on the achievement of reductions and establishment of the 25-percent goal, it is as good as any other way that we could think of to, in effect, get a sense of what the goal was going to be. So even though it is not a perfect measure for any of the purposes that it is applied, it essentially does provide very useful information.

Mr. SCHULZ. That is why I had Frank answer that question.

Mr. SOUDER. I think I understood what you were saying there. The bottom line is that, while not perfect, you don't know of any other—I mean, there is no real market rate.

Mr. DEGNAN. Not without a lot of additional costs associated with getting a more precise number.

Mr. SOUDER. One of the problems, when you get into downsizing and a number of things that you have addressed is that you can spend a lot trying to get better estimates of how to do it and more competing plans. Pretty soon you are spending all of your time how to downsize rather than how to do the space program. It is one of the dilemmas we face.

I wanted to ask a question on the environmental cleanup question, too. We ran into this in the Base Closure Commission regarding one base in Indiana, when I was working with Senator Coats, the Jefferson Proving Ground. Obviously, anyplace where they have tested armaments does not necessarily make a good park, and yet at one point they were debating a park. Then they debated a prison, they decided that it probably wouldn't pass under the cruel and unusual punishment clause to put prisoners there.

Is there not a way, in cases of—because this is one of the things raised in the difficulty of closing some places—some way to block off certain places like that? And quite frankly, could it not be, before we get rid of some of these places, better to kind of put them in very low maintenance? Should, for example, we get in the situation for the Defense Department, it is more clear; but here we could also easily wind up in some sort of a space competition, again, where all of a sudden some of these facilities we may need. Is there not an option like that in the system, other than just kind of abandoning and having to do the cleanup costs?

Mr. DEGNAN. In terms of reducing operational costs, lowering the status of a facility, to mothball or—to mothball it or to put it in some kind of standby capacity is an acceptable way of reducing the current replacement value of facilities because it is recognized that little, if any, actual moneys will be spent to keep it in that lower status.

So the answer to your question is, yes, you can, in effect, move facilities into those lower categories and, by that, end up spending somewhat less to operate and maintain them.

Mr. SOUDER. I wanted to ask one other question here, too. I was intrigued.

Almost as good as the current replacement value is the fragmented management authority. Could you explain a little bit what you mean by that and some of the problems with it and some examples of fragmented management authority? You refer to that in the new report.

Mr. DEGNAN. Well, the situation in the report, I think, that relates to—that was with regard to the wide area network.

Mr. SOUDER. Telecommunications.

Mr. DEGNAN. There are some other instances, and I guess it would basically be in the aircraft area, where NASA recently established basically a management council, aircraft management council, to try and do better in the area of scheduling and operating their aircraft fleet, without regard to the issue of whether or not there should be a single location for R&D and related support aircraft, which is the—which is also on the agenda this morning.

You know, just the issue of who gets to use it when, and the scheduling of it, is something that because of the, if you will, "ownership" of these aircraft by the centers that had physical possession of them. It was sometimes difficult for another center to get in there and use it legitimately for some programmatic support purpose that they had in mind and had a need for.

One of the roles of the aircraft management council is to try and deal with that better than it has been dealt with in the past so that there will be a broader consideration of overall needs for scheduling and operating those aircraft.

Mr. SCHULZ. I think when Mr. Goldin comes up he will probably talk about the Centers of Excellence in which they are attempting conceptually to get uniform leadership from individual centers in specific functional areas. The ability of that to work without an overlap and full cooperation is something, obviously, we will have to look at it at a later time.

Mr. SOUDER. We have been joined by the gentlelady from New York, Ms. Slaughter. I think we will go back to Mrs. Thurman for questions, and then we will——

Mrs. THURMAN. Ms. Slaughter may go. She has not had her opportunity.

Mr. SOUDER. OK.

Ms. SLAUGHTER. Thank you, Mr. Chairman. I appreciate that.

Gentlemen, I hope this has not been covered, and I regret being late, but I had another appointment. Why do you believe NASA relied on questionable initial cost-cutting reduction studies?

Mr. SCHULZ. The example of that in the report is mainly focused on the fact that in doing the aircraft consolidation study, that effort was tasked to Dryden, who produced an estimate well in excess of what subsequent estimates were for the annual recurring savings.

The example there on the initial study is that it was tasked to the agents—to the center that was to gain the aircraft as a result of the consolidation. That—and no matter how well done the study would be, it——

Ms. SLAUGHTER. Would it be in good faith, yes?

Mr. SCHULZ [continuing]. Would be suspect to a lot of people, just from a perception point of view.

But more than that, if you even look at that—and I said I wouldn't mention this, but I will mention it—when you look at the NASA IG's annual recurring cost estimate and you look at the NASA Comptroller's annual recurrent cost estimates, both of those are closer to each other than either of them are to the original Dryden estimate, which was $12.6 million, well beyond the estimates that you will be talking about today.

Ms. SLAUGHTER. I did note that——

Mr. SCHULZ. So that was one area.

The other area generally deals with what we indicated in the report as the pressure, the time pressure, that a lot of the study teams were under. Some of the suggestions that came out of the management groups that led into this whole process of reduction back in 1994, the late 1994, early 1995 timeframe, those efforts were, I would describe them as "hurried." And in some cases they, in effect, made estimates that could best be described as "seat of the pants," "best-guess" types.

And I am not critical of that attempt on their part. They had to. That was something that needed to be done. They made their best shot at it. But as it turned out, those estimates proved to be unrealistic and, in effect, insupportable. And we have examples in the report of those.

Ms. SLAUGHTER. Certainly, going from a $9 million savings to $23 million in a very short time would certainly make one suspect. But are you satisfied that Congress did not lobby on behalf of not consolidating those planes at Dryden?

Mr. SCHULZ. Maybe it——

Ms. SLAUGHTER. Do you feel that decision was arrived at strictly on costs and the benefits to the people, the country?

Mr. SCHULZ. I don't know how to answer the question as asked, but we do know a lot of phone calls came into NASA and to us about that situation from the Hill. So we were aware of considerable interest.

Ms. SLAUGHTER. I would feel a lot more satisfied if all of you really made those decisions on the actual cost savings and whether or not that was practical rather than whether or not certain Members of Congress in certain districts felt that you should not do it.

Mr. SCHULZ. I wouldn't disagree with you at all on that.

Ms. SLAUGHTER. I certainly want that statement made. Thank you, sir.

Mrs. THURMAN. Mr. Schulz, I get the impression, just in reading briefly over the report, that—and I need just a quick answer. Do you believe that Congress should try to exercise greater or less control over NASA's day-to-day operations?

Mr. SCHULZ. I think the quick answer is a more reasoned oversight in the context of having NASA give clear indications where it's going to go. Then you can have an opportunity to see, in fact, that they are doing it, similar to what Ms. Slaughter has just said. In the context of that, that is my quick answer.

Mrs. THURMAN. That was kind of the followup.

Ms. SLAUGHTER. Yes.

Mr. DEGNAN. I would point out that the intention of our——

Mr. SCHULZ. Recommendation.

Mr. DEGNAN [continuing]. Matter for consideration of the Congress in both the personnel report that we issued to Senator Glenn, as well as this report infrastructure, is really focused on that.

You know, obviously Congress has an oversight responsibility, and they need to be in a position to critique NASA and the progress it is making in areas where it has made commitments. In effect, to recognize that if things aren't going to be able to be accomplished, what's going to get in the way of a program, what's going to be cut back?

So the earlier those conversations rise to the surface and are carried out in an oversight environment, the better the program will be over a long time.

Mr. SCHULZ. We need honest discussions. What we are dealing with is a situation which in our work in the Defense Department we find all the time, and what I am seeing here in my oversight of NASA is a can-do attitude. You probably need more discussions on what they can't do. And maybe you can have a better, more reasoned oversight. But micromanaging, we are not suggesting that at all.

Mrs. THURMAN. OK. On another issue on the environmental cleanup, I am interested, because in your report it sounds like there could be some shared responsibility with other operators. Is it your recommendation that you think that would quite frankly probably help NASA in reducing their moneys, that they should try to help—have these folks help in that cleanup?

Mr. SCHULZ. That is correct. In our report, we have made that point about they should more actively pursue the other potential contaminators of sites that are occupied by NASA facilities, et cetera. And we are pleased to see that NASA has stated that within a year they will have a policy statement on that.

Do you want to add anything to that, Uldis?

Mr. ADAMSONS. I would add that under current law, all parties involved with contamination—owner, generator, operator, transporters—share liability. And in our work on the Department of Defense, we found that there were some policies indicating—seeking to identify the parties. In fact, in the case of the Department of Defense, we were also recommending greater consistency in that guidance, but there was some activity in that area. In the case of NASA, the policy is not there yet.

Mrs. THURMAN. Let me follow up with a question on that, because I have a little bit of concern in that area that always has concerned me in the cleanup process.

Will there be money associated with being able to bring those—the liability issue to them? And is that going to put us into a situation of a huge fight over who is responsible for what, and then we are in a situation where there will be no cleanup at all, or it could take us several years to in fact ever get to that?

I mean, they weigh off of each other, so I am interested in knowing what kinds of money might be associated with finding out who is liable.

Mr. SCHULZ. That is almost a facility-by-facility discussion. One of the initial concerns expressed to us by NASA was what they presumed to be a futility of getting into that mode of trying to chase down the will of the wisp, so to speak; we are still saying, however, that they should make the opportunity and then get more information to make the assessment to deal with that very issue that you are talking about. We are just saying, make the first step.

Mr. ADAMSONS. In the Department of Defense in one case, the Government has received thus far about a $300 million contribution toward the cleanup. But, of course, as Tom indicated, there may be other cases where the cost of litigating, the cost of trying to research it could exceed the value.

Mrs. THURMAN. And we could make allowances for that? I mean——

Mr. ADAMSONS. A policy in this area certainly should make allowances for that.

Mr. SCHULZ. Then you may in fact see, with a policy and the outcome of the policy as they try to apply it to certain facilities, a request for more money, if necessary.

Mrs. THURMAN. OK. Let me ask one last question here, because you also mention in the report that there have—we all know that there have been several reports written to Congress and recommendations being made.

Do you feel like NASA has not cooperated in some of these 100 recommendations from various and different reports, or do you believe that they have tried to come forward and tried to make those recommendations and use them?

Mr. SCHULZ. We do conclude that, in fact, for most of the recommendations, ultimately they have tried to do something about them or are partially implementing them or saying they will implement them.

The difficulty we—our point is not that there is not a willingness. It is dealing with some of the barriers, that we talked to you about, that they don't necessarily have control over. And also in the context of, again back to my short answer to you about saying what you can't do, you need to have, we think, a tracking system to monitor, find out where you really stand.

It was quite difficult for us to find out what the actual status was of those, and we basically had someone working full-time trying to chase that down for several months. If you had a picture of that, then they could come and have these discussions with you: Here are the problems that we are having as far as going forward with some of the things you and others have recommended and maybe you can have those more open discussions that I talked about.

Mrs. THURMAN. The chairman probably doesn't yet know this, nor his staff, but I happened to have moved to Cocoa Beach, Satellite Beach, in about 1964, so you can imagine what I walked into in those years. So we have a pretty good idea of what you are up against and what they are up against, as well, and the political. We watched a lot of places closed and a lot of families were hurt, and I certainly do understand the sensitivity to the issue.

Mr. SCHULZ. I think it is clear that this is probably one of the most appropriate committees to be reviewing this issue. Because NASA—this probably—I don't know, and Mr. Goldin can probably fill you in, but at least 10 committees they have to deal with every other day that have jurisdictional roles over parts of what NASA does. So just the mechanics alone, above and beyond the things Ms. Slaughter mentioned, makes it quite a difficult job.

Mrs. THURMAN. It is.

Mr. SCHULZ. That is why we say it can't necessarily be done by NASA alone, despite their good intentions to do so.

Mr. SOUDER. But you also address a broader problem that we have in Congress. Anybody who looks at our committee structure and watches the lines would give up on any Government course or trying to figure out how things work.

And one of my concerns, even though I understand why you are saying this on the closure question, is that we can't always punt everything to a commission because, in fact, that is what we are elected to do. And the question is, do we have the courage to do so? We have downsized in our budget process and as one of the kind of nasty freshmen that go through the appropriations bill to figure out as we went through the Interior bill, trying to see whether it just happened to be people on the conference committee who got stuff for their parks. The Defense bill to try to match up who's on the conference committee with whose bases seem to be getting more money or plants get more money, you can get a pretty cynical attitude about how the whole system works. It is not just in NASA; it is across every single agency.

And if you want to watch a food fight, so to speak, in Washington, watch any formula funding, whether it is for a block grant or a rural, urban mental health versus something else. We have a system-wide problem that as long as we were spending more it was fine, but when you start to contract, you run into huge problems.

I wanted to follow up a little bit on the environmental. I want to make a comment that one of the concerns I have here, as opposed to some other types of environmental cleanups, is, we are giving specs to companies and telling them to build it a certain way. Are you suggesting part of the environmental cleanup costs be borne by people who built rockets or equipment that was built to Government specs?

Mrs. THURMAN. Yes.

Ms. SLAUGHTER. Yes.

Mr. SOUDER. As opposed to once the taxpayers say this is the way we want it done, why would a company have as much liability in that?

Mr. ADAMSONS. This is a factor that is considered in each and every case, the degree of Government supervision and the degree to which Government specifications were a cause of the cleanup. You know, in some cases on Government facilities, the contamination occurred because the land was simply leased by a company doing commercial business. It had nothing to do with Government activity at all. In other cases, the degree of Government supervision, varies from direct supervision, to where the contractor violated discharge permits, for example. So it again is case specific.

Mr. SOUDER. So those are all part of the variables and case specifics?

Mr. ADAMSONS. Yes, sir.

Mr. SOUDER. Also, could you give me an idea of the current requirements, from an environmental cleanup perspective and others, for NASA or any other Federal agency for turning property over to the public or private sector? In other words, are there things—what are the guidelines on shared liability? Sometimes you don't know what the liability is going to be.

I mentioned one other base closing. In Indiana, we pretty much don't have any bases left, so we are dealing with Grissom and Fort Bend and Harrison. We have had problems with turning some of these things over to the private sector, even other public entities, because of uncertainties. Unlike Jefferson Proving Ground, where we knew we had problems, some of the others, it still seems to be very difficult to make the transition.

What are some of the guidelines on those transfer questions, as they would relate to NASA more, in particular?

Mr. ADAMSONS. The guidelines themselves are in an area of transition. I am not sure that I can do justice, trying to summarize with the recent changes in law as well. But the concerns you mention are valid ones. What do you do in a situation where it is unsure? Alternatives that have been tried are leasing, for example, rather than turnover; and being able to turn over, for example, clean parcels that are certified clean and holding the others until later. But the overall area still has not been resolved.

Mr. SOUDER. Thank you. Does anyone else have any questions for this panel?

Ms. SLAUGHTER. No, thank you.

Mrs. THURMAN. No, thank you.

Mr. SOUDER. We thank you very much for coming today. And we have additional time if you have other things you want to put in the record. Or we may have written questions as a followup, too.

Mr. SCHULZ. Thank you, Mr. Chairman.

Mr. SOUDER. Thank you.

If Ms. Gross can come forward for the second panel and anybody who might be accompanying her.

If you will remain standing, we will swear you in.

[Witnesses sworn.]

Mr. SOUDER. Let the record show that the witnesses responded in the affirmative.

I have the Honorable Roberta L. Gross, inspector general of the National Aeronautics and Space Administration. If you could, at the beginning of your testimony, introduce who you have with you for the record and they can be identified also as having taken the oath.

STATEMENT OF ROBERTA L. GROSS, INSPECTOR GENERAL, NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, ACCOMPANIED BY DAVID CUSHING, ASSISTANT INSPECTOR GENERAL FOR INSPECTIONS AND ASSESSMENTS; AND BRUCE SCHMIDT, MIKE MORIGEAU, AND ELAINE SLAUGH, AUDITORS

Ms. GROSS. Good afternoon. With me are David Cushing, who is the assistant inspector general for inspections and assessments, and also Mr. Bruce Schmidt, who is an auditor. I may also additionally call on two other auditors to contribute, Mike Morigeau and Elaine Slaugh.

Mr. SOUDER. If you decide you need to call on them or do that, we will have to swear them in as well.

Ms. GROSS. Sure. Thank you.

Mr. SOUDER. Do you want to go ahead with your testimony?

Ms. GROSS. Thanks.

I have a prepared statement that I would like to have submitted for the record, and I have a shortened version that I will give and then ask for any questions.

Mr. SOUDER. Without objection, so ordered. Thank you.

Ms. GROSS. Thank you.

Mr. Chairman and members of the subcommittee, thank you for the opportunity to be here today to discuss NASA's initiative for downsizing the agency infrastructure and the progress made in reducing facilities.

You asked specifically that I address NASA's efforts at aircraft consolidation and other specific examples of NASA's failure to conduct a cost-benefit analysis. As you know and has been discussed by the first panel, as well as by yourself, NASA's budget and staffing levels have decreased dramatically in recent years. More lean years are in store for the agency.

As a result of these pressures and the desire on the part of the agency to do work faster, better and cheaper, NASA has long looked hard and consistently for ways to reduce infrastructure while maintaining the quality and content of its programs. One such initiative was the agency's 1995 Zero-Base Review [ZBR]. One of the ZBR options was the consolidation of program aircraft from other NASA Centers to the Dryden Flight Research Center.

At the outset, it is important to understand the aircraft at issue. These are generally unique research platforms on which scientists, program researchers, engineers, and technicians conduct scientific research. In most cases, the focus of the research is not the airplane itself but custom flight experiments designed to be flown on specific-type aircraft for research in areas such as the study of the ozone, combustion in the microgravity environment, solar cells, ice, icing conditions. This is just to name a few.

I would refer you to the audit report where I included some pictures. I think it is difficult to draft this. When we think of aircraft, we always think of airplanes. You know, you can go to Delta, you can go to TWA, and it is all fungible; whereas, really what we are talking about are platform research facilities that are part of an infrastructure that happen to be airplanes and spend some of the time in the area to study the conditions or so the instrumentations can be studied in the proper environment.

I was fortunate when I went to Ames that they had the DC–8 being loaded for a foray into experimentation. I think they were going to study the ozone layer. It looked like the first day of college where everybody is coming with all their trunks. All of those trunks, though, are instruments.

The instruments and how they are going to study ozone layers, was the focus. It just happened to be that it was going to go into a DC–8. It was just a means of getting the experimentation to the science, which is a lot different than we normally think of the aircraft.

The other picture, I think, that is really very illustrative is the DC–9 at Lewis, where you will see people sort of floating and the instruments floating. It is not your normal idea of an aircraft. But what they are studying is a microgravity environment. And in order to do that, you have to do almost like roller coasters in the air as you go up and you go down.

So again that is not how we normally use aircraft. That is not like a TWA or that is not like anything we are studying for breaking the sound barrier, things like that.

A decision to consolidate aircraft, which carries major impact to the agency and its research programs, is controversial. This was enormously controversial. Soon after the decision to consolidate in May 1995, we received indications that the move might not be as cost effective as claimed and that it could have an adverse effect on the research being carried out by the consolidated aircraft. As a result, we initiated an audit of the NASA process, the process it was using to make its decision as well as the documentation that supported the decisionmaking.

In this announcement of the ZBR initiative, NASA cited expected cost savings as the primary reason for deciding to consolidate aircraft at Dryden, and we began our audit work to determine if cost savings would result from the consolidation.

This audit proved enormously difficult. Throughout our audit work, the details of the consolidation efforts kept changing. For example, initially the plan was to transfer 22 aircraft and 320 personnel to Dryden. This subsequently changed to 17 aircraft and 254 personnel. The current plan calls now for 21 aircraft and 290 personnel.

And we understand that this might be changing even as we are talking, as the agency reevaluates the fate of the DC–9 aircraft and the microgravity flight research program at the Lewis Research Center. That DC–9 is right now being taken off the table for purposes of evaluating or coming up with numbers on cost effectiveness of consolidation.

We talked to people in the field and at headquarters. We reviewed numerous documents and studies. We analyzed various assessments. I personally traveled to all the centers involved in the consolidation to observe firsthand the research programs being conducted to talk to affected program and center officials. We found that there is little consensus that consolidation will work. There is little consensus on how much it will cost to implement and how much, if anything, it will save in annual operating costs. There is also little agreement that the impact on it will help research programs, which is the very reason for maintaining these aircraft in the first place.

Now, I do want to put a caveat that any review of this sort is extremely challenging and lacks precision. We are, in essence, trying to predict the future, where assumptions in programs are changing, where funding is changing and so assumptions are going to be changing. That is an important caveat to keep in perspective.

Our work on this was continuous over a year and we issued several products that set forth our positions and concerns. Our initial assessment sometime in October-November—we started approximately in July—was that consolidating and relocating the aircraft to Dryden was not grounded in a thorough cost-benefit analysis, and so we recommended in the December 1995 report that NASA discontinue its efforts to consolidate until it completed a full cost and programmatic impact analysis; and we recommended that this analysis include a thorough evaluation of issues and concerns expressed by the researchers, the outside customers, and aircraft operations personnel. NASA responded that, as part of their planning process, they intended to do a thorough analysis of the consolidation recommendation.

We didn't think this ever happened. It was always an analysis of whether or not it would be cost effective to have the aircraft go to Dryden instead of putting all the options on the table. NASA did an initial draft assessment that also concluded that it wouldn't be economically justified to do the consolidation. After getting input then on that draft analysis from the headquarters program offices and other sources, they came out with a revised assessment which was completed on February 8, 1996. That assessment identified nonrecurring costs of $9.3 million, annual savings of $4.7 million, resulting in a payback period of 2 years.

We thought that the assumptions and cost savings were unduly optimistic. Many of the cost estimates also didn't reflect actual cost history. However, the NASA February assessment introduced an alternative to the Dryden consolidation plan. The alternative would leave at least five aircraft at their current locations; that is, Langley Research Center, they would leave the B–757; at Lewis Research, the DHC–6 and the DC–9; and Wallops Flight Facility, P–3B and C–130QB. Our review of this alternative plan confirmed that material cost reductions would be similar to those that were potentially identified by the Comptroller.

Compared to the proposed consolidation plan that all the aircraft go to Dryden, this alternative would have reduced the payback period to 3.1 years, and would have reduced disruptions to ongoing research, because those were the major platform aircraft.

There is also the suggestion of another consolidation effort, that is, do an east/west, Dryden and Wallops. A contingent of both headquarters and center program officials and researchers have said that might be even the most cost effective given the fact that a number of planes were being decommissioned.

They considered a couple of years ago an east/west consolidation, but it was going to be expensive at Wallops because they didn't have the hanger facilities, and so they didn't want to be investing in infrastructure. But that is when there were a whole lot more airplanes they were talking about, so that there was a proposal to at least evaluate that, put it all on the table, compare apples to apples.

This never happened, either. The agency did not continue to pursue looking at those various options. The only option that was considered is consolidation at Dryden.

Obviously, there is a major difference between our analysis and that of the Comptroller's Office. Our final analysis estimated nonrecurring costs of $11.3 million and annual savings of about $218,000 resulting in a payback period of 52 years, reversing the agency netted annual recurring savings of $4.5 million and a payback of 3 years.

There is a difference of assumptions, and there are key disagreements in areas of added travel, estimated facilities, closure savings and aircraft parts and fuel savings due to decommissioning of aircraft. These are complex and controversial areas. You would think they would be simple. They are not.

For example, there are many and varied opinions regarding the cost of added travel. One area we disagree on is the 757. Now, one of the reasons for that is, we were auditing an agreed-upon plan between Dryden and Langley on how the consolidation would occur on the 757, how the scoping of the research would be done and how the costs would be done, who would do which kind of research or who would do what kind of changing of the aircraft to make it replaceable for the 737.

That wasn't very cost effective. It didn't make consolidation work, and as a result, there was a new plan proposed. It didn't come until after we issued our draft audit in June. In fact, they issued their changed draft plan about a week or so after our draft audit came out, and it become final after our final audit. So it wasn't final during the time of the scope of our audit, though later it turned out that the draft was the final.

We had problems and we did address it in appendix III. Because we knew obviously there would be an interest in terms, we did a cursory review. We couldn't audit it because it was considered still to be a draft. But in appendix III of our report we addressed many of the concerns we had about the 757 plan. Even though there was a review of reduction in travel, there would be a lot of costs that were never put forward. There were just uncosted items that made it difficult. If you don't cost them and then you put forward that you have a cost-effective plan, well, it may work, but you didn't cost out all the issues that are outstanding.

For example, what was the cost for the laboratory setups, what was the cost for the telescience, the new way of doing business? What was going to be the cost of having a rear flight deck at some point in the future, if it was going to happen? Was it going to—it can be a major focus. If you were going to have major deployments and minor deployments, a lot of travel would go on there. They just were uncosted.

The same thing about creating a Wallops-like environment. They said they needed to create one. It was never said, where. It was never said, what would be the cost. You have a plan without major kinds of cost elements. It is very difficult to make an assessment that, in fact, you have an effective consolidation plan. How would you know? You are missing a lot of figures.

Dollars are an important element in this consolidation decision, but other things are more difficult to quantify, and that is the lost research.

I see my time is up, so I am sure there are going to be questions on some of the assessment issues that we have on the closing of Lewis Fire Department. So that would be some of the other summary.

But in summary what I would like to say is that I think that NASA has made lots of efforts and really does try to do strategic planning. They take it very seriously. They take very seriously reducing infrastructure. They do take seriously trying to work within their budget. They just have to do it in a way that in fact is better, faster, cheaper to make the decisions, it ends up being better, faster, cheaper. This was a long process that I think, if you had a better process, it wouldn't have been so long.

Thank you.

[The prepared statement of Ms. Gross follows:]

Statement of

ROBERTA L. GROSS
Inspector General

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

before the

Subcommittee on National Security, International Affairs, and Criminal Justice
Committee on Government Reform and Oversight

Mr. Chairman and Members of the Subcommittee thank you for the opportunity to be here today to discuss NASA's initiatives for downsizing the Agency infrastructure and the progress being made in reducing facilities. You asked specifically that I address NASA's efforts at aircraft consolidation and other specific examples of NASA's failure to conduct cost-benefit analyses.

As you know, NASA's budget and staffing levels have decreased dramatically in recent years. More lean years are in store for the Agency. As a result of these pressures and the desire on the part of the Agency to do work faster, better and cheaper, NASA has looked long and hard for ways to reduce infrastructure while maintaining the quality and content of its programs. One such initiative was the Agency's 1995 Zero Based Review (ZBR). One of the ZBR options was the consolidation of program aircraft from other NASA Centers to the Dryden Flight Research Center (Dryden).

At the outset it is important to understand the aircraft at issue. These generally are unique research platforms on which scientists, program researchers and technicians conduct scientific research. In most cases, the focus of research is not the airplane itself, but custom flight experiments designed to be flown on specific type aircraft for research in areas such as the study of the ozone layer, combustion in a microgravity environment, and solar cells to name a few. Airborne science aircraft include large multi-engine testbeds, such as the DC-8 (Ames Research Center), the B-757 (Langley Research Center), the DC-9 (Lewis Research Center) and the C-130 (Wallops Flight Facility). The airborne science research centers have built up substantial synergisms and capabilities over the years between the researchers, experiment integrators, mission planners, engineers and operations personnel (including specially trained flight crews).

A decision to consolidate aircraft, which carries a major impact to the Agency and its research programs, is controversial. Soon after the decision to consolidate, we received indications that the move might not be as cost-effective as claimed and that it would have an adverse effect on the research being carried out by the consolidated aircraft. As a result, we initiated an audit of the process NASA used to make its decision to consolidate the aircraft and the documentation that supported that decision.

This audit proved very difficult. Throughout our audit work, the details of the consolidation effort kept changing. For example, initially the plan was to transfer 22 aircraft and 320 personnel to Dryden. This subsequently changed to 17 aircraft and 254 personnel. The current plan calls for 21 aircraft and 290 personnel (150 civil service employees and 140 contractor staff). However, we understand even this may be changing as the Agency re-evaluates the fate of the DC-9 aircraft and the Microgravity flight research program at the Lewis Research Center (Lewis).

We talked to people in the field and at headquarters, reviewed numerous documents and studies, and analyzed various assessments prepared by the NASA Comptroller's Office as well as others. I personally traveled to all the Centers involved in the consolidation to observe firsthand the research programs being conducted and to talk to affected program and Center officials. We found that there is very little consensus as to how consolidation will work, how much it will cost to implement, and how much, if anything, it will save in annual operating costs. There is also little agreement on what the impact will be on the research programs--the very reason for maintaining these aircraft in the first place.

However, I should note that any review of this sort is extremely challenging and, by its very nature, tends to lack precision. We are, in essence, trying to predict the future where assumptions and program funding are constantly changing. The recurring revisions by the Program Offices and

Centers to the assumptions underlying the consolidation model and the difficulty in getting timely information made our reviews of NASA's assessment exceptionally challenging. The actual numbers and types of aircraft to be consolidated were in constant flux. This significantly affected, and could continue to affect, staffing, travel, and other requirements associated with estimating consolidation costs.

Before I go into detail regarding what we found during the course of our audit work, I would like to say that I agree wholeheartedly with GAO's conclusion that NASA should develop objective and well-supported closure and consolidation decisions. I came away from my visits to the Centers and discussions with program managers on the aircraft consolidation issue with an impression that NASA employees view their programs as a legacy to America. If these employees believed that the consolidation decision was rational, well founded, and minimized impacts on program research, they would not have so emphatically objected to the Agency's efforts, even though they were personally impacted. However, the Agency never achieved this crucial buy-in for the consolidation effort.

Previous NASA Internal Studies of Aircraft Consolidation

The ZBR was not the first study of the potential benefits of aircraft consolidation. Over the years, NASA has studied this issue several times. One study was the Report on Center Roles and Missions, dated November 1993. The conclusion of this study, conducted less than 2 years before the ZBR, was that while consolidation at Dryden could work, it would not be easy. The report indicated that the consolidation would require a significant up-front investment; entail a long-term payback, adversely impact the program and NASA's customers while being implemented, adversely impact morale, and present a greater challenge to ensure that flight research is closely connected to the Aeronautics program and the researchers. The study went on to point out that the challenge to change the NASA culture to become more customer-oriented would become more difficult. The report indicated that flight demonstrations and validations are essential mechanisms to credible linkages with industry. It indicated that the aerospace industry typically demands high confidence levels for the incorporation of new technology. The report concluded that the near-term effects of the consolidation could degrade the last vital link in NASA's aeronautical mission--the successful transfer of technology to U.S. industry.

As we go through the chronology of events surrounding the concept of aircraft consolidation since the fall of 1993, we need to keep in mind the concerns expressed in this study. I believe the audit work we have done over the past year reinforces the conclusions reached in November 1993.

Recent Studies of Consolidation

In April 1995, NASA again studied the feasibility of aircraft consolidation and concluded that it could save NASA an estimated $9.0 million annually by consolidating 21 aircraft at Dryden. This study was performed by Dryden, which later revised its savings estimate to $23.3 million annually. Shortly thereafter, NASA announced that Dryden was to assume flight operations management of all research aircraft except those in support of the Space Shuttle. In the announcement, NASA cited expected cost savings as the primary reason for deciding to consolidate aircraft at Dryden. We began our audit work to determine if cost savings would result from this consolidation initiative.

December 1995 Rapid Action Report

While our work on the aircraft consolidation issue was continuous for over a year, we issued several products that set forth our position and concerns. The first, a rapid action report issued in December 1995, concluded that the Dryden estimated costs of consolidation were questionable, and that NASA had not thoroughly considered the impact that consolidation would have on its science research programs. This preliminary analysis indicated the possibility that, instead of the estimated $23.3 million in savings anticipated by the Dryden study, there may be significant additional costs associated with the transfer of aircraft. In fact, this first Office of Inspector General analysis estimated that there could be about $32.2 million of initial start-up costs with additional recurring annual costs of about $1.5 million.

A logical question might be--why the dramatic difference between the estimates in the Dryden study and ours? For the most part, the answer lies in the assumptions surrounding several key cost components including personnel reductions and relocations, facilities closures, and retirement of aircraft. The documentation and support provided to us did not indicate that there would be significant reductions in either personnel or facilities. Also, the Dryden estimate included an estimated savings of $1.5 million due to the retirement of 11 NASA aircraft, while we found that 7 of the aircraft would have been retired anyway due to changes in program requirements. When we eliminated the claimed savings due from the 7 aircraft and factored in our personnel and facilities closing estimates, we concluded that Dryden's estimated savings of $23.3 million vanished and, in fact, consolidation resulted in added costs of $1.5 million annually.

Realizing that the decision to relocate aircraft to Dryden was not grounded in a thorough cost/benefit analysis, we recommended in our December 1995 report that NASA discontinue its efforts to consolidate until it had completed a full cost and programmatic impact analysis. We recommended that the analysis include a thorough evaluation of issues and concerns expressed by affected NASA researchers, outside customers, and aircraft operations personnel. NASA management responded that, as part of their planning process, they intended to conduct a thorough analysis of the consolidation recommendation, including full cost, programmatic, and operational impacts.

NASA Cost Assessments

NASA's initial draft assessment of December 13, 1995, concluded consolidation was not economically justified as start-up costs would be $49.1 million with only a $2 million per year payback. After input from the Headquarters Program Offices and other sources, however, a revised assessment was completed on February 8, 1996. The assessment identified nonrecurring costs of $9.3 million and annual savings of $4.7 million, resulting in a payback period of 2 years. We believed that many of NASA's assumptions and cost savings in this assessment were unduly optimistic, and many of the cost estimates did not adequately reflect actual cost history.

OIG March 1996 Analysis

In contrast to the NASA February 1996 assessment, our analysis, which was summarized in a March 8, 1996 memorandum to the Acting Deputy Administrator, estimated nonrecurring costs of $22.4 million and annual savings of $1.6 million, for a payback period of 14.3 years. When adjusted for the cost of money, we concluded that the consolidation would take about 33 years to recover the initial investment.

As in the December 1995 analysis, there were several key cost factors in our March 1996 review that significantly contributed to the differences between our estimates and those of NASA management. Again, we believed that the NASA assessment had not only underestimated the costs of relocating personnel to Dryden, but also underestimated the costs of lost research and added travel that would accrue when the aircraft were separated from those conducting the actual research. We also believed that NASA's estimates of savings from decommissioning aircraft and closing facilities were overstated. For example, we questioned estimated savings attributable to the closure of Moffett Federal Airfield because: (1) host/tenant agreements require Ames Research Center to operate the flight facility for at least two more years, and (2) the projected savings would be achieved, not as the result of consolidation, but due to an ongoing, independent action to transfer responsibility of the airfield to another federal agency. We questioned additional estimated facilities savings due to NASA's use of estimated costs for facilities at four field locations rather than the actual costs being incurred for these facilities.

The NASA February assessment introduced an alternative to the Dryden consolidation plan. The alternative would leave five aircraft at their current locations (Langley Research Center (B-757), Lewis Research Center (DHC-6, and DC-9), and Wallops Flight Facility (P-3B and C-130Q)). Our review of this alternative plan confirmed material cost reductions similar to those identified by the Comptroller. In fact, based on our cursory estimates, this plan would reduce up-front costs to $9.1 million and produce annual savings of $2.9 million. Compared to the proposed consolidation plan, this alternative would reduce the payback period to 3.1 years and would reduce disruptions to ongoing research. Another aircraft consolidation option (east/west) was brought to our attention. We did not see an Agency analysis of this plan, but a contingent of both Headquarters' officials and program researchers contended an east/west consolidation might be the best alternative, with Wallops Flight Facility as the east coast facility and Dryden as the west coast facility. Our March 8 memorandum urged NASA to also explore this alternative in detail. The Agency did not pursue this option.

August 1996 OIG Report on Aircraft Consolidation

Our final analysis estimated nonrecurring costs of $11.3 million and annual savings of about $218,000 resulting in a payback period of 52 years. Obviously, there is a major difference between our analysis and that of the Comptroller's office. The key areas of disagreement continue to be the cost of added travel, estimated facilities closure savings, and aircraft parts and fuel cost savings from the decommissioning of aircraft. These areas are highly complex and controversial. For example, there are many and varied opinions regarding the cost of added travel. A major change in the Agency's projected travel costs is related to the B-757 currently based at Langley. During our audit, Langley was revising a plan for the B-757. Because of its draft status at the time we issued our final report on August 12, 1996, we were unable to audit the revised assumptions and figures. NASA notified us on August 19, 1996, that this draft plan was finalized. However, there were still open issues that this "final" plan did not address. Our preliminary review of that plan (discussed in Appendix III of our final audit report) revealed that the significant reductions in the aircraft's design modifications may result in lower additional travel costs, but will also increase other costs e.g. telescience and laboratory set-up; additional staffing (or contract dollars) to support the B-757 when it replicates the features of the B-737, which it was intended to replace; and travel associated with major/minor deployments for scheduled research. Also, it appears that some cost savings associated with the B-757 "final" plan result from descoped research or revised target dates.

Summary of Aircraft Consolidation Efforts

There are several key factors that should be considered in evaluating the cost effectiveness of the proposed aircraft consolidation. Specifically, we believe that readily measurable savings occur only when personnel levels and infrastructure costs are reduced. The Comptroller's assessment reveals that of the 503 employee positions associated with the aircraft to be consolidated, only 23 will be eliminated as the result of consolidation, whereas, 190 positions will be eliminated as a result of the decommissioning, storage and disposal of aircraft. Consequently, significant personnel savings result from programmatic decisions rather than from consolidation.

Also, most of the Centers impacted by consolidation have stated that they intend to reassign employees into other positions, rather than dismiss them once the aircraft are transferred to Dryden. In fact, at Lewis civil service employees working on aircraft have been reassigned to positions in other offices and then detailed back into their positions working on aircraft. Management has told us that this will also be the case at Langley.

NASA management has also indicated that consolidation is necessary to reduce infrastructure costs at the four Centers losing aircraft. However, all Centers have indicated that their facilities will not be closed to the extent consolidation claims. Conversely, the fact that NASA has made a commitment to maintain the operation of Moffett Federal Airfield at Ames Research Center for the foreseeable future means that annual costs of $3.0 million will continue.

Dollars are an important element of this consolidation decision. However, another important cost which is far more difficult to quantify will be the adverse impact on the efficiency, quality, effectiveness, and/or timeliness of research efforts resulting from the separation of the unique research aircraft from the center research capabilities. Dismantling established research facilities and moving the research aircraft will cause inefficiencies during planning, integration and deployment.

In summary, our audit work leads us to remain very skeptical of the cost effectiveness of the planned consolidation. Our review of the assumptions and underlying data do not support the conclusion that NASA will save money by consolidating its aircraft at Dryden. We also believe that there are viable alternatives to the current consolidation model, already identified, that have the potential to save more money with less negative programmatic impact. We continue to urge NASA management to explore these alternatives.

Other Examples of Lack of Cost-benefit Analyses

Your invitation to testify before the Subcommittee also asked me to address other specific examples of NASA's failure to conduct cost-benefit analyses. There are several examples that come to mind where NASA could have made more informed decisions if it had the benefit of a detailed cost-benefit analysis. For example, NASA had planned to transition nozzle manufacturing and refurbishment operations for the Space Shuttle's Reusable Solid Rocket Motor from Utah to Mississippi. Our audit dated April 13, 1995, disclosed that this relocation would be extremely costly and with little or no programmatic benefit. We found that the Mississippi facility would have duplicated nozzle manufacturing operations currently performed in Utah, but at an additional cost of about $528 million over the remaining life of the shuttle program. NASA management concurred with our recommendation and reevaluated the need to relocate the nozzle manufacturing and refurbishment operations to the Mississippi facility. This resulted in NASA's decision to cancel the planned relocation.

Another audit of the maintenance and modification of NASA's vehicles issued October 24, 1995, concluded that orbiter maintenance down periods could be performed more cost effectively without adverse impact to the shuttle program. The program could save $30 million annually, or $450 million over the remaining life of the shuttle program, by performing maintenance down periods at the Agency's east coast launch/landing site rather than at a contractor-operated facility on the west coast. These savings would result from the elimination of: (1) duplicate facilities and infrastructure costs, (2) orbiter ferrying costs, and (3) civil service support costs. Further, the time required to perform the associated maintenance could be shortened by as much as 4 months, thus creating greater efficiencies in orbiter processing facility operations. NASA management concurred with our recommendation to perform such activities on the east coast.

Inspection and Assessment Initiatives

The newly formed Office of Inspector General Inspection and Assessments staff recently completed work that points to the need for realistic planning and analyses of the costs and benefits of programmatic decisions. For example, our analysis of the closing of the Lewis Fire Department found the decision to be cost-effective, though the savings were overstated by a factor of two. Also, NASA commendably worked to minimize the impact on employees. However, the planning process with the Centers and affected municipalities leading to the provision of replacement emergency services was inadequate. We have recommended that NASA perform drills and exercises to overcome safety vulnerabilities, particularly any deficiencies in emergency response time.

In addition, in our ongoing assessment of the NASA downsizing activities, particularly the migration of staff and functions from NASA Headquarters to field centers, we have found an almost uniform absence of cost-benefit or any fiscal analyses used in decision-making processes. Our interviews with NASA Headquarters managers indicate that cost issues have either not been considered or were considered irrelevant. The Inspections and Assessments staff has issued two specific reports on proposed migration activities: the proposed move of Agency training staff to Lewis, and the move of independent program assessment and cost estimation activities to Langley. Based on our cost analysis and recommendation, NASA canceled the move of management training staff to Lewis. The proposed move of assessment and estimation activities to Langley remains unresolved. Since this unit will play a key role in providing the analyses NASA needs to effectively manage staff and program reductions, we are particularly concerned about the Agency's definition of this function. In the past, both GAO and the Report of the Advisory Committee on the Future of the U.S. Space Program, December 1990, (Augustine Report) criticized the Agency for not creating a cost analysis group with independence, impartiality and technical credibility.

Conclusion

In this era of downsizing and diminished budgets, NASA must do everything within its power to conduct its business in the most economical and efficient way. To its credit, NASA has been successful in reducing its infrastructure and is constantly striving to do more with less. The Agency is also trying to reorganize based on strategic planning. It will be NASA's challenge to find new and innovative ways to further reduce infrastructure while preserving the quality of its programs. This challenge will be more effective if NASA employs solid, analytical techniques to evaluate the potential costs and benefits of its future programs. This will aid the Agency to make the most well-informed decisions. It will also help it to identify those decisions that, although well-intentioned, do not further the Agency's goals of reducing costs and improving efficiency.

……

This concludes my prepared statement, Mr. Chairman. I would be happy to respond to any questions you or the Members of the Subcommittee may have at this time.

Mr. SOUDER. Thank you for your testimony.

Let me, in the overall perspective of what we are going at here, if the budget has been declining and they aren't able to achieve consolidation that, in effect—or ways to save, that means there is less for the space program and for research.

Ms. GROSS. Yes.

Mr. SOUDER. So we get a tradeoff that if we don't effect some savings, programs are affected. Is that——

Ms. GROSS. Sure. We are usually in favor—the inspector general's office is always hammering at the agency, you have too many spare parts. You have these—we have a wind tunnel in a box that they have that they may use 1 day; you have too many rocket parts at Wallops. We are always telling them to consolidate, and so that's our normal—but that is when you have fungible items that are the same kind of items.

What we have here are laboratories. I mean, I give it as an analogy to Livermore. You have to look at these infrastructures as just airplanes that happen to go up in the air, but they are really part of an infrastructure.

If you take at Lewis, for example, microgravity research, they have drop towers where they do the microgravity research and so they are doing combustion studies both at the drop towers and in the DC–9. There is this synergism that all works together. It is not the same kind of program, for example, that is at Dryden.

Usually when you talk about consolidation, to use a phrase, you are talking about "hot dog stands." You know, everybody wants to have their own hot dog stand. What you are talking about here are unique lab situations or at least that is an issue—that is what the researchers claimed; that is what the program people claimed—and so the issue is not to consolidate something if it is not both effective for research or results in cost savings.

We question the cost savings also. We just don't think they are going to materialize.

Mr. SOUDER. So let me separate those two questions for a minute and pursue this for a second.

Ms. GROSS. OK.

Mr. SOUDER. This is kind of an overview similar to what we had in the first panel. We also had questions about cost savings.

Ms. GROSS. Yes.

Mr. SOUDER. Why do you think it is so difficult and why—since they are committed and have a program goal? Really it is in their interest to figure out how to get the cost savings, because of the budget total dollars. Why is it so hard to get accurate cost savings? Because we have heard both of you say that their intent is right, they are trying to get to it.

Clearly, we know there is some political pressure on it. How much of this is political pressure? How much of this is they don't have enough internal process to do cost accounting and where would those dollars come from? How expensive is it to get the things in evaluation that you were asking them to do?

Ms. GROSS. I think it is hard to get accurate figures probably in any circumstances. It certainly is when it is controversial. I think that each of the centers has different ways of costing materials.

You can be asking for information from a center, and they may give you the most optimistic, in their terms, costing.

Mr. SOUDER. They certainly don't have the incentive to make themselves look bad in this process?

Ms. GROSS. Yes. So we judgmentally discounted at times 50 percent of what they said.

On the other hand, they had the program expertise. Whereas, if you also had the codes or headquarters wanted to consolidate and wanted it to be cost-effective, we wanted to test their figures and their statements that they had in terms of their costs, so it was difficult there also.

They had a mission they wanted to do. They wanted to consolidate. It was part of ZBR. I think that they wanted people to wear the big NASA hat and get to that goal, in part, to show Congress that they can do the ZBR.

There is congressional pressure. The pressure is not so much, you know, where they are stopping consolidation. There is congressional pressure on the Administrator, on the agency, that says, we are ZBR, we are making those, we said we would do this; and the pressure makes it difficult then to get good figures. It is a complex reason. You know, the political pressure comes to achieve.

Mr. SOUDER. Particularly when you mix it with the scientific question of the different types of research and laboratory.

Ms. GROSS. Yes.

Mr. SOUDER. Because wouldn't one of the factors—and how would you weigh the balance between the cost and the research? In other words, you might get more dollars by closing—if I understand this correctly, closing one, but in fact there may be two types of what you identified as kind of like lab—laboratory research centers; maybe two could be merged more easily such that you wouldn't get as much cost savings, but you wouldn't have as much of a——

Ms. GROSS. Program.

Mr. SOUDER [continuing]. Program goal reduction.

Ms. GROSS. What you have to do is to go analyze, when you do a consolidation of laboratories, what is the cost on the research community; what is the cost of deflecting people from wanting to do the research? It becomes expensive, because they have to travel. They have to spend so much time doing planning for all their equipment, to travel. Are they going to go into another area? You have to be able to set some sort of matrix on that. That wasn't examined as part of the cost analysis of the agency. That is difficult.

On the other hand, you still have to make a decision. Is moving things from the east coast to the west coast—and you have these synergisms on the east coast with your researchers, you have some of your communities—does that make sense? You have to just weigh the different kinds of factors that might impact on cost.

Mr. SOUDER. Are you one who likes the commission idea, too?

Ms. GROSS. Do I like the commission idea?

I don't think I actually have an opinion on that. I would really want to know how it worked out on—with the DOD. It is not without its controversy, and before I would certainly say anything like that, I would have to say—I would want to know what NASA wanted to do, whether or not it felt it had the ability to handle its affairs.

I think that you have a pretty competent administration here, and I think that they do try to struggle both with the difficulty of getting accurate figures—they are struggling with the difficulty. That is why they are going to full cost accounting. That is why they are going to having auditable statements.

I think that you would really have to find out, what were the deficits in having it happen at the DOD and does it really lend itself to an agency whose goal is research and development in aerospace?

I mean, DOD was—you are talking about a lot of bases. They had a lot of people and they had a lot of very common kinds of functions. Is that what we are doing? I mean, particularly that is not the goal of NASA, right now anyway. What they are trying to do is the business of—if private industry can do it, NASA shouldn't be doing it. But NASA should be doing—cutting edge R&D. Is that what you want a BRAC Commission to do at this stage?

I just don't have enough—I certainly would not venture an opinion without doing an awful lot of reading and talking, both what happened at DOD and whether it is at all analogous to NASA.

Mr. SOUDER. Some good warnings.

Mrs. Thurman.

Mrs. THURMAN. In the closing of your statement, or at least the one that will be submitted, you bring up an issue of the cost and benefits of its future programs, and you specifically say that if NASA employs solid analytical techniques to evaluate the potential cost and benefits of its future programs. And then, of course, throughout your report you talk about your cost-benefit analysis.

Can you compare for us where you think that there may be factors that your office is using, that they are not using, that might better prepare them for this kind of analysis?

Ms. GROSS. I think GAO had highlighted some of that. If you want to really get a real cost-benefit, let all the players put their cards on the table, let them duke it out. It may end up after all the cards are on the table, you are comparing apples to apples and oranges to oranges, and maybe the best decision is to go to Dryden. But that never happened.

And I think that we uniformly had people contacting us and saying that they—they were no longer asked their opinion; not that if it was ordered finally to go to Dryden that they would—they would do their very best to make sure it worked because they care about NASA and they care about their programs. But no one is asking them whether or not there were cost impacts: How would you weigh those cost impacts to go push against some of the analysis? There was a goal to get to consolidation.

And I don't know if you ever read, when you were a kid, about—in mythology everybody had Edith Hamilton, right, and you had the myth of this giant Procrustes. Everybody would come into his house, and he had this bed; if people were too long, he would chop off their feet, and if they were too short, he would just stretch them.

Well, this was going to get to consolidation one way or the other, and it was going to be cost-effective one way or the other. And I think that it was very driven, and I do want to say, in part, by Congress. I think that if you read some internal documents, written actually by Dryden—with the keeping of the minutes, so they certainly weren't trying to embarrass the agency—but really it said, "wear the big NASA hat; we have got to give Congress red meat."

So, when you ask questions about politics, you have to be able to leave the agency the ability to say, we made cost estimates, we did ZBR, but sometimes we don't think they are cost-effective. You have to give them that kind of margin and not make them feel like there is red meat that they have to deliver.

Mrs. THURMAN. Now let me be a little more specific because you have kind of led into this, particularly because what may be one difference of what one thinks is actual savings as to what somebody else does.

Ms. GROSS. Sure.

Mrs. THURMAN. Because in your testimony you stated that some of the cost savings Dryden estimated came from the retirement of the 11 NASA planes, and then you discovered that 7 of those planes were already slated to be decommissioned. So why then did you eliminate the savings associated with the seven planes already slated for retirement, and were those seven planes previously calculated as savings? Because there is a perfect example of what we in Congress would say, well, here is a number and here is a number with no description. So if you could give us just a little bit better of a——

Ms. GROSS. Sure. If NASA never had ZBR, but its budget is going down and it periodically does this anyway, and it wasn't saying that we have a goal to consolidate four Centers of Excellence at Dryden, which was going to be this flight research center, if we didn't have that, you have to always look to see, do we have science programs? Is there a reason to be having employees working on this airplane? Is any science—is there any community that is interested in the plane? That is a programmatic decision.

NASA could be doing these regardless of consolidation. So any kind of aircraft that they said we no longer have a use for, whether or not they go forward and do this consolidation, those planes are going to be gone. We are all monitoring that. General Dailey is monitoring it and I am going to monitor it.

It doesn't have anything to do with consolidation. NASA has made a decision that they don't need those planes for aircraft research, and the program centers have also agreed on that. So those planes are gone. It has nothing to do with consolidation. It has to do with that there is no program for those planes, there is no use for those planes, we don't need to support those planes. It has nothing to do with ZBR.

Mrs. THURMAN. So those aren't included as part of savings then?

Ms. GROSS. Right. We say that is just programmatic. They can do that—if they decide not to consolidate the planes, or they decide to do the east/west consolidation, those planes are still going to go, those 11 planes. It has nothing to do with ZBR going to Dryden.

So if you look at something that has to do with a decision that they programmatically can do and it is not a savings associated with moving airplanes, cutting out infrastructure because all the planes are going to Dryden, we are talking about planes not going to Dryden. We are talking about planes we are just going to put a bullet in; they are gone, hopefully.

Mrs. THURMAN. OK.

Ms. GROSS. That is not clear?

Mrs. THURMAN. No, I—this place always does a little bit different kind of accounting than I think I am used to but that is OK.

Ms. GROSS. I find that myself.

Mrs. THURMAN. You find that. Probably so.

I read a lot of your reports, like—maybe not yours particularly, but you know, so that——

Ms. GROSS. We are working on those and I am glad you said that. I am glad you said that. They can quote that.

Mrs. THURMAN. Good.

Ms. GROSS. They are going to be more readable in the future, they definitely are.

Mrs. THURMAN. Well, we would just kind of like to know what is savings, what isn't savings, what works, those kinds of things when we are trying to put budgets together, too.

Mr. SOUDER. We thought what you do is you say, OK, this one is really difficult, make it so none of them can figure it out over there in Congress.

This is—are you done with your questioning?

Mrs. THURMAN. Well, my red light is on.

Mr. SOUDER. OK. We are being very flexible.

Mr. LaTourette.

Mr. LATOURETTE. Thank you, Mr. Chairman.

I really appreciate the opportunity to have you here, inspector general. And since you didn't get the opportunity to talk about the Lewis Fire Station closing, Mr. Chairman, I would ask unanimous consent to include a copy of the inspector general's report dated September 10, 1996, relative to that issue and have it be made part of the record.

Mr. SOUDER. Without objection, so ordered.

Mr. LATOURETTE. I would offer that up as maybe an example of what you have been talking about and GAO was talking about, that there are two sides to cost-benefit. One is what it costs and, two, what is the benefit or the impact either on programs that are currently under consideration in the aircraft consolidation area or, in some instances, safety?

I want to focus on your report on the fire station, because it is safety that really came into play where that was concerned. And maybe I'm not that familiar with all of your reports over the years and maybe your reports are always this pointed. But specifically the notes that I made during reviewing your report was that the planning for the transition to local fire facilities was not timely or adequate, current local emergency service response times do not meet acceptable standards; and that management at the Lewis Center disputed your findings regarding response times, transition plans and cost savings. In material provided by Lewis management to you, it didn't support their positions.

The reason I became interested in it, and basically just for the other members of the subcommittee, was that as part of ZBR each of the centers was challenged to come up with ways to save money.

I certainly commend NASA for doing that. NASA Lewis offered up the fire service and said we can close the fire service to achieve a savings that they estimated at $4.4 million; and inconsistent with GAO, your report indicates that was overstated and they counted some things that, at least according to you, they shouldn't have counted to come up with that figure.

But it almost occurred to me—and in a moment I would like your observation—that the idea to close the fire station sort of came up first. Let's close this fire station, save $4.4 million; and then, is it a good idea, came later and making the transition to make sure that the employees were safe. And the way it came to my attention is, all the firefighters at the station, they didn't lose their jobs. They were transferred to other jobs, so it wasn't a matter that they were afraid they were going to be out of work, but they were concerned about the safety.

And as I have reviewed the documents since the closure, the closure took place in April, the former response time for emergency calls was 3 minutes, and now it is 13½. To an employee having a heart attack or to an employee burned by fire or chemicals, 10 minutes, 10½ minutes, that is a long time.

Did your analysis of what took place in fitting the Lewis Fire Station closure into the ZBR plans for that center look at the issue of who was consulted, and when they were consulted? About how we were going to cover, not only are we going to save money—whether it is $3 million, as you say, or $4.5 million, as the folks at Lewis say—as to who was involved in the process of making sure that there was a smooth and safe transition from Lewis Fire Service to somebody else?

Ms. GROSS. Yes. I think our biggest fault really was the transition process. We ultimately think that it is a good idea. We think that, in fact, it does save money, maybe not to the extent that they had claimed.

It is very consistent with what happens at the other centers, that they don't use civil service forces, even headquarters stuff, and the problem—and I think actually had been considered even pre-ZBR. In the materials that I think have been provided to you and Mr. Hoke, it also explained that for some reason it just didn't get implemented earlier than the ZBR initiative. But where they fell down was in the transition process.

They gave themselves a year to coordinate with the three jurisdictions that would be affected by Lewis, and two of them, they didn't consult with at all until the month before it was going to happen. And actually it was a delayed date in which it was going to happen.

One fire chief found out about it because somebody happened to chat with him at a training and said, oh, by the way, you are going to be responsible for fire response and emergency responses and they called Lewis and said, is that true?

And so the lack of consulting with the jurisdictions that were going to be responsible for the safety, that is, the fire and hazard response, was our biggest fault. And because of that, and not—and the workers, not knowing what was going to be the transition plan. They had not done desktop drills, they did not do even other kinds of drills with the fire departments prior to the closure; it created an atmosphere where it made it difficult for what we think is a very valid consolidation. It was a lack of planning and a lack of effort. Indeed, in fact, discussions with Congress could have been improved also.

Mr. LATOURETTE. I appreciate that. And if I could just add one more comment, Mr. Chairman, knowing my light is on, that the first response we received back relative to the planning with the other cities was, we got a letter back saying, well, of course they are going to take care of it because they are required by the Ohio Revised Code, but no, we haven't met with them yet.

Ms. GROSS. Right, right, right.

Mr. LATOURETTE. Thank you very much.

Mr. SOUDER. I wanted to ask one other safety followup question.

Ms. GROSS. Sure.

Mr. SOUDER. Is any of the discussion about switching the aircraft around, would that affect any safety variables related to the Shuttle program?

Ms. GROSS. No. I mean, we didn't use that as a variable and none came to our attention, so, no.

This is really very focused on aero, possibly with the exception of the DC–9. I would just like those people floating, right? But the DC–9, obviously, study in microgravity environment, which is going to be the International Space Station, is going to be a whole environment on microgravity. Part of the reason for the DC–9 program is to create a research environment for microgravity research both at Marshall and at Lewis.

So there is not safety, but there is impact in terms of space. But mostly this is aero we are talking about, aeronautics.

Mr. SOUDER. Do you have any additional questions?

Mrs. THURMAN. I just have two.

Going back in your testimony, I guess NASA had agreed with your office on the relocation of the Shuttle solid rocket motor operations from Utah to Mississippi. In your experience with NASA management, have you found them generally to react to your office's findings regarding not only cost-benefit analysis but also other major audits you have conducted?

Ms. GROSS. I am going to only be able to answer for 1 year. I have only been in the position for a year.

Mrs. THURMAN. OK.

Ms. GROSS. I think that in general we have good relationships with the administration. If I need to get the attention of the Administrator or General Dailey, they always make themselves available.

I think that we disagree professionally sometimes and sometimes they agree. There are some decisions that we recommended that they did agree on. One was another inspection/assessment activity, the location of staff, the training personnel. They were going to move them to Lewis even though most of their training was going to be done at Wallops, and it was a fairly headquarters kind of function. They agreed that it wasn't cost-effective and it didn't make sense programmatically.

I think it is going to be a case by case. I think we all have, obviously, relations that have to continue to improve, but I think we are committed to that.

I think there were some difficulties in this audit in terms of the pressure that individuals felt in terms of being able to express their opinions. That always makes it difficult in an audit or an investigation or an inspection. But I think that—in general—I think that they certainly do listen. I think they are attentive. I mean, I think that they are—they want what's best for NASA also. There are times when we just fundamentally disagree.

Mrs. THURMAN. Well, and that certainly is——

Ms. GROSS. That is what they pay them to do is to make management decisions.

Mrs. THURMAN. I would imagine there are times that they see something further along the line than we might, and you ought to have those discussions. I mean, I think that is a part of the give and take.

Second, then, do you think that NASA is proceeding in good faith with its efforts to reduce and/or consolidate its infrastructure?

Ms. GROSS. Good faith? Absolutely good faith. I think that NASA—NASA is driven to get down to the FTE level that it is supposed to. It is driven to get to a budget. If you want to make it easier, give them more budget or give them multiyear budgeting.

I mean, they have a constraint where they are in R&D—what a hard agency to run.

Mrs. THURMAN. Right.

Ms. GROSS. I mean, you are in R&D aerospace. You are supposed to be cutting edge. R&D can go 10 years, 20 years, 25 years. It is very difficult to measure. That is their mission. And they get these 1-year budgets, if they are lucky, and it makes it difficult. You don't know what's going to happen the next year. It makes it difficult to manage.

There is definitely good faith. We may not always agree. This one, we didn't at all.

Mrs. THURMAN. You may have already answered this a little bit earlier, but in your opinion, what role should the Congress play as NASA downsizes its infrastructure? In some of our other comments, we have heard maybe what role we shouldn't play in the downsizing of the infrastructure.

Ms. GROSS. You have a complex role also. I mean, I think oversight is a very important function. I mean, I don't see the oversight that is going on today is about the 21 aircraft, though I would look at it as, really we are talking about four research labs. Don't call them just 21 aircraft.

I think what you are talking about today is a process and a way of coming to decisions so you get buy-in. That is a broader kind of viewpoint. If all you were doing was a hearing on a few dollars, even though I think it is an important program, this kind of oversight is probably important because what you are saying is that risk might be a BRAC kind of environment. Those are pretty big philosophical discussions that you are having.

That kind of large oversight sign is when you start getting to, like, security at—there is a lot of little oversight. Sometimes we get people asking us questions on our operations, too. It seems, my goodness, that is the Congress. Can't they have a bigger picture?

Mrs. THURMAN. Well, we ask you to do a lot of things, too.

Ms. GROSS. Yes.

Mrs. THURMAN. Thank you.

Mr. SOUDER. I thought that was a very eloquent statement about why it is important to re-elect a Republican Congress for the next 10 years: So we have stability in the budgeting process.

Mrs. THURMAN. I think you need to go back to the benefit. We know the cost. We just want to know the benefit now.

Ms. GROSS. I am party neutral.

Mr. SOUDER. Mr. LaTourette.

Ms. GROSS. On cost.

Mr. LATOURETTE. Thank you very much, Mr. Chairman.

This goes to the DC–9 that you keep referring to affectionately. It is affectionately known as the "vomit comet" in northeastern Ohio because of its weightless tricks.

I didn't get the chance to talk about aircraft consolidation because I was busy talking about the fire station. I would also ask unanimous consent that the inspector general's report of August 12 of this year regarding aircraft consolidation be made a part of the record of this hearing.

Mr. SOUDER. Without objection, so ordered.

[NOTE.—The audit report entitled, "Aircraft Consolidation at the Dryden Flight Research Center," can be found in subcommittee files.]

Mr. LATOURETTE. In particular, I was struck by the statement on the front page that you have concluded that the proposed consolidation of research and support craft at Dryden is not cost-effective nor an efficient use of agency resources. The assumptions and cost-saving projections were optimistic and associated cost estimates do not adequately reflect actual cost history.

In addition, we do not believe that NASA has adequately evaluated the adverse impact that aircraft consolidation would have on program research. And that goes back to what I was trying to talk about in my first 5 minutes. Specifically, there is a plane in northeastern Ohio that deals with icing research. I think the chairman of the subcommittee would be familiar with the American Eagle that went down recently in Indiana. And we are plagued in the Great Lakes region with icing.

As I understand the history of NASA's involvement, which is a long legendary history, and many men and women have done tremendous scientific work, planes were falling out of the sky in this country until such time as NASA helped pioneer the research into what icing does on the wings of airplanes. If I understand things correctly, one of the planes that would be transferred out to Dryden is involved in the icing research and the conclusion of that project is 2 years away.

Now, I do not go out to California much but I would bet we have more ice east of the Mississippi, near the Great Lakes, than they do in Dryden, CA.

Mr. SOUDER. Probably Cleveland alone.

Mr. LATOURETTE. I would think that's right.

Mrs. THURMAN. We don't have any in Florida.

Mr. LATOURETTE. You have no ice in Florida. Well, you are lucky.

So I assume that is the type of program impact that you are talking about, where there may be an associated cost savings projected by somebody at Dryden that would have, I think, a very detrimental impact upon at least that program.

Ms. GROSS. That is a complex one. I mean, Lewis wins my heart in terms of programs. Is the icing—it is an old plane; it is what you call a jalopy of a plane. It is a Twin Otter. It doesn't make sense to move that to Dryden. It doesn't make sense to use that for telescience, put any kind of equipment on it. It is a plane that, if it was not used in a cost-efficient environment, which it is at Lewis, you would want to decommission it. It is a center of icing research with wind tunnels at Lewis.

And the lady, who is not in aerospace, Dr. Lee, she has her job; she is still doing her wind tunnels and icing research. She says this is an important project that they are doing in the Midwest, and it is a 2-year project. And indeed the FAA wrote a letter to her saying that they are very upset about moving it. But she said, what's the next plane? And where would you use it for icing research is an open question, because you can send planes high up or you can send them over to Montana. You can invest in a larger, bigger, different plane, but that is a whole infrastructure kind of question.

But right now it is an extraordinarily cost-efficient program. It doesn't make sense to move that. As well as, they do in another jalopy of a plane solar cell research, a $60,000 program—and again this is not the aeronautics code—they do world leading solar research on cells, partially because it's ideally located because it is cold and miserable——

Mr. LATOURETTE. That is right.

Ms. GROSS [continuing]. In Ohio, and they can do that kind of research for the kind of sun they need. To have to go up to a troposphere.

Mr. LATOURETTE. The Farmer's Almanac says we are going to have a better winter this winter. But would it be a fair observation to say that based upon the information that you have found in this August 12 report—one of the problems that I think Administrator Goldin faces—this is about the 12th report I have seen dealing with aircraft consolidation, so I don't know how he can figure out what to do.

But based upon what your study shows in your report of August 12 of this year, would you agree that it is probably premature to proceed with the aircraft consolidation plan, as presently outlined, without further study by somebody—either NASA, Congress, or whoever is the appropriate grouping to do that?

Ms. GROSS. Yes, but I would want it to be a study that all the players are there and they can do it in a narrow timeframe. Time is money and they are losing—there is morale that is affecting staff; and that is why we go. GAO and the IG's office say the same thing. If you got the buy-in, you could almost do it better, faster, cheaper because it wouldn't have taken so long—you didn't have so many people that felt so heartfelt this just wasn't a rational plan.

Mr. LATOURETTE. Thank you very much.

Thank you, Mr. Chairman.

Mr. SOUDER. Thank you for your testimony today. It is important, as one of—we are not as invested in the different programs as our other committees, which is why we have an oversight function with it. You have raised a lot of different complex questions.

Clearly the cost relates to the—in other words, a simple question here is, and I think your answer probably would be, yes, but does NASA have a clear vision of where they want to go?

But that vision, given its limited budget, is affected by how much cost savings they have and how much money they have. So we appreciate your report. I appreciate your coming today, and we will go on to the next panel.

Mr. Goldin, if you can come forward, please.

Can you remain standing. Sorry about that. And can you introduce——

Mr. GOLDIN. We will get the NASA people to stand up so you don't have to do this twice.

Mr. SOUDER. And then maybe each—would you have each of them to say the names so we can note it for the record?

Could you each say your name before I administer the oath?

Mr. GREEN. Mike Green.

Mr. ARMSTRONG. Spence Armstrong.

Mr. REEVES. Richard Reeves.

Mr. BRUBAKER. William Brubaker.

Ms. DUNNINGTON. Patricia Dunnington.

Mr. HARRIS. David Harris.

Mr. FRAENER. Claude Fraener.

Mr. GOLDIN. We will give you a list of the names.

Mr. DAILEY. John Dailey.

Mr. GOLDIN. Daniel Goldin.

Mr. HOLZ. Arnold Holz.

[Witnesses sworn.]

Mr. SOUDER. Let the record show that all the witnesses responded in the affirmative.

I guess I should have noted this at the beginning, that our subcommittee chairman, Mr. Zeliff, wishes he could be here today. He is obviously detained in New Hampshire.

We are honored to have you here today, Mr. Goldin, and look forward to your testimony, if you would like to proceed.

STATEMENT OF DANIEL S. GOLDIN, ADMINISTRATOR, NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, ACCOMPANIED BY ARNOLD HOLZ, CHIEF FINANCIAL OFFICER; JOHN DAILEY, ACTING DEPUTY ADMINISTRATOR AND CHIEF OPERATING OFFICER; GENERAL SPENCE ARMSTRONG, RET., PERSONNEL REDUCTIONS; RICHARD REEVES, LRC FIRE STATION, PLUMBROOK, ZERO BASE REVIEW [ZBR]; DAVID HARRIS, WIDE AREA NETWORK CONSOLIDATION; PATRICIA DUNNINGTON, SUPERCOMPUTER CONSOLIDATION; WILLIAM BRUBAKER, FACILITIES CONSOLIDATION; MIKE GREEN, ENVIRONMENTAL ISSUES; AND CLAUDE FRAENER, AIRCRAFT CONSOLIDATION

Mr. GOLDIN. Thank you.

I would like to submit my formal statement for the record and just make a brief introduction.

Mr. SOUDER. Without objection, so ordered.

Mr. GOLDIN. Could I have the first chart, the chart on the budget?

I am here today to talk about restructuring, because there is a revolution taking place in America. There are a lot of niceties that take place in Government, but I come from industry where for 25 years I had to turn in profits and I had gotten measured by return on assets employed. I didn't have the luxury of a lot of debate. I would have been fired with debate. I was paid to make decisions and to move out, based on judgment.

Now, I would like to bring everybody's attention to this chart here on my right so we get a little perspective on where we are going. That is the NASA budget in 1993 and the integrated amount of money is $122 billion. Each year, the American public has said they want the NASA budget to come down and this Administrator has not whimpered once. In fact, I salute the fact that the NASA employees have turned back, over this planning period, $42 billion into deficit reduction.

When you cut the budget like that, people are impacted, communities are impacted, and if we have to stop and analyze each little individual element and detail, it will be impossible. By way of perspective, we are talking about an estimate between a few hundred thousand a year and $10 million a year on aircraft consolidation out of a $13.8 billion budget.

We must be able to do rough decisions and move out and be willing enough to listen to the IG, listen to the GAO. The fact of the matter is, we have not moved the planes, we will not move the planes, because this is an issue where a problem has been pointed out. That is the perspective I would like you to understand.

I think that the GAO and the IG are doing a terrific job. I do not get upset by what they say. We try and listen, and I tell our staff to listen. I think you've got that sense here.

They helped us make a half-billion-dollar decision to shut down Yellow Creek. That was not easy politically. I did not ask for a Base Closure Commission, and I had some very difficult political problems, but I am paid my big government salary. I have the responsibility to carry out the will of the President and the Congress and, by God, I don't want a Base Closure Commission. It will destroy NASA. I don't think you want the help of punting the ball down the stream to take you away from the political process. There is too much debate in this country and there are too many people that push decisions off on others.

NASA doesn't hire any outside help to make decisions. We do it ourselves. I said, no more consultants. When I was in business, I eliminated consultants because I felt the employees had to do the right thing.

It is never fair enough. It is never accurate enough. There is never enough information to satisfy the people involved, but I ask everyone to keep in mind, this is what is going on at NASA, and there is a new proposal to cut our budget some more. Yes, our research will be impacted, but we want to make the impact minimal.

On the positive side, I would like to say, we have done a terrific job with the Congress, the GAO, the IG, the President. The average cost of our spacecraft has come down by a factor from $590 million, on average, to $185 million, and we set a goal of $74 million. We have cut the cost of the shuttle a billion a year and tripled its reliability on ascent. We have taken a 36-percent budget cut and our productivity has gone up 40 percent.

When I came to NASA, we had 149 aircraft. Today, we have 106, and that is a reduction of book value of $½ billion. When the ZBR is done, we will have 29 less aircraft for another $285 million in savings.

This was painful and, yes, we did lose some research but you make some decisions. But the lesson I learned in industry was, the human spirit is unbelievable. You make a decision and delegate it to a group of people that believe in the country, believe in what they are doing, and magically it happens. You don't need a whole bunch of analysis.

Now, I do accept the criticism of the GAO that some of our analysis is sloppy. I won't apologize for it because good people did good analysis with good intents, but we are going to listen to them. We are going to move in the right direction, and I commit to you that we will work with you.

And hold us accountable. When we don't do it right, call it to our attention and have us stand up publicly. And that is your job in oversight. We won't be defensive.

I like the fact that you called this hearing. I like the fact that the GAO wrote their report. I like the fact that the IG asked us to take a look at things, and I committed that we are not going to move the planes. We are not going to gas them up as some people had wanted to do until we get this resolved. I like the fact that the IG criticized us on the safety. Safety should never be compromised because of cost.

So I am ready for questions.

[The prepared statement of Mr. Goldin follows:]

Hold for Release Until
Presented by Witness

Statement of

Daniel S. Goldin
Administrator
National Aeronautics and Space Administration

Before The

Subcommittee on
National Security, International Affairs, and Criminal Justice
Committee on Government Reform and Oversight
House of Representatives

Mr. Chairman and Members of the Subcommittee:

Thank you for providing this opportunity to appear before you today to review NASA's efforts to consolidate the Agency's facilities infrastructure and base support. Throughout NASA's history, the Agency has achieved major advances in space and aeronautical research, development, and exploration which have contributed to national security, economic growth, national pride, and international prestige. We look forward to continuing that tradition in the future, even as we face a growing demand for a balanced budget and more efficiency from government, which create new budget realities for NASA's future.

Several years ago, NASA's long-term plans assumed a budget approaching $30 billion by the year 2000. Current budget projections are significantly below that. NASA saw these new budget realities as a challenge and took the opportunity to reexamine its mission and reinforce its relevance and value to the Nation. As part of this effort, we are also working to develop new ways of doing business, reduce infrastructure, and implement programs through a "faster, better, cheaper" approach that improves efficiency and eliminates redundancies.

The NASA Zero-Base Review (ZBR), conducted in the spring of 1995, was the centerpiece for initiating these sweeping management changes. The ZBR team recommended several significant program changes, but the most important management change recommended was the identification of Mission and Center of Excellence designations for each NASA Field Center. The intent of this recommendation was to consolidate aerospace operations, engineering and test facilities, and functional management expertise. It also served to strengthen the science program, and recognize the synergy between the aeronautics and space programs. These designations define each Center's role and responsibilities within the Agency. Each Center Mission directly supports one of the NASA Strategic Enterprises. Each Center of Excellence represents a focused, Agencywide capability in a recognized area of technical competence in which a Center is in a position of preeminence within the Agency, if not worldwide.

The identification and implementation of these defined roles and responsibilities reduced overlap and streamlined administrative and program functions across the Agency. By focusing Centers of Excellence around a Field Center's strengths, and consolidating previously distinct "pockets" of expertise, the science and aeronautics programs will be strengthened. The resource savings attendant with focus and consolidation means the Agency can continue to provide the Nation with world-class research and technology in an era of declining budgets.

In your invitation letter to testify today, you asked me to specifically discuss NASA's efforts in the areas of aircraft consolidation, wide area network consolidation, supercomputer consolidation, Field Center and facility consolidation, and NASA and DOD cooperation. Below, I have outlined NASA's efforts in each of these areas:

Aircraft Consolidation

As mentioned above, the most important management change recommended by the NASA ZBR was the identification of Mission and Center of Excellence designations for each NASA Field Center. Through this process, the Dryden Flight Research Center (DFRC) was designated as the Center of Excellence for Atmospheric Flight Operations, with Flight Research as its Mission. The proposal to consolidate all of NASA's aircraft resources, except those associated with the Space Shuttle, at DFRC fits naturally with these designations. Additionally, DFRC benefits from its location adjacent to the Air Force Flight Test Center at Edwards Air Force Base. Thus aircraft consolidation is consistent with NASA's fundamental management philosophy and integral to the success of ZBR. Consolidation will:

- accomplish program objectives with fewer resources;
- eliminate overlapping infrastructure; and,
- allow Centers to focus on their primary missions.

NASA estimates that consolidation will save $2.2 million per year after an initial investment period of less than four years. Moreover, decommissioning of aircraft identified as excess during the consolidation process will save an additional $21.8 million annually. The savings from the aircraft consolidation proposal have already been counted as we work to reduce NASA's budget over the next several years. Aircraft consolidation helps NASA achieve savings by eliminating redundancies in facilities and capability and driving efficiency in program implementation.

Consolidating aircraft will relieve the Centers from having to devote scarce resources to flight operations (flight support, maintenance, etc.). Instead, these operational responsibilities can be placed at the Center most involved in flight activities, DFRC, and the other Centers can apply their resources to their primary Mission and Center of Excellence responsibility. This ensures that each Center is strongly aligned with the long-term direction of the Agency and that resources are applied in a more efficient manner.

Since the consolidation proposal was made in May 1995, NASA and its Inspector General have had extensive interaction refining cost and savings estimates which we believe has produced an improved aircraft consolidation plan. Consolidation of NASA research aircraft at Dryden Flight Research Center is fully in line with NASA management assumptions associated with the Agency's new way of doing business, including the designated roles and responsibilities of DFRC and NASA's estimates reflecting a payback period of less than 4 years. We strongly believe consolidation will save NASA money and assist us in implementing new ways of doing business that will make us even more efficient in the future.

Wide Area Network Consolidation

NASA's telecommunications consolidation effort is being managed by the Space Operations Management Office (SOMO) at the Johnson Space Center. The management model by which SOMO operates requires Agency-wide participation, at the Center level, in the decision and execution process. This has resulted in an Agency-wide Wide Area Network (WAN) consolidation team, managed out of Marshall Space Flight Center (MSFC), that is now considering all NASA WAN assets in the consolidation scheme. Aggressive privatization (commercialization) and outsourcing strategies are being prepared. An independent, objective review, currently being conducted through a contractor, to examine NASA's telecommunications needs and how to best satisfy them, has already concluded that this approach "represents a substantial change in NASA's WAN strategy." NASA's initiative has been rewarded with significant cost savings.

The SOMO is currently preparing a statement of work and associated request for proposal which will solicit a Space Operations Architecture Plan from the private sector. One or more contractors will be selected to implement the chosen architecture that provides the most cost-effective method for performing space operations. Facility closures, relocation of activities, and consolidation of operations are all anticipated to be part of the selected architecture. The contractor will carry out the consolidations and closures as part of its architecture implementation and cost-reduction process. This process will reduce impacts of parochial concerns which would impede progress toward taking the necessary steps to reduce operational costs.

The NASA Chief Information Officer (CIO) recently published a new operating model and has established MSFC as the Information Technology (IT) Lead Center for communications architecture. In this role, MSFC is coordinating communications initiatives with SOMO's WAN consolidation activities. SOMO is represented on the Agency's CIO Council which serves as the principal, formal IT investment planning and reviewing advisor to the Agency's Capital Investment Council (CIC). The CIC advises the me on significant issues and priorities for Agency-wide capital investment. The NASA CIO is a member of the NASA Operations Council, which is chaired by my Associate Deputy Administrator (Technical), and is the Agency oversight body for NASA space operations investment, systems development and contractor performance. This management alignment effectively integrates the CIO, other senior Agency executives, and key implementors, ensuring that NASA brings leadership and "corporate" oversight to its telecommunications strategies, assets, and initiatives.

Supercomputer Consolidation

Let me preface my remarks on NASA's current initiative to consolidate management of supercomputing with a comment on the role of supercomputing at NASA. Supercomputing is an essential tool for accomplishing NASA's diverse missions, allowing us to design aeronautical systems faster and cheaper, design models to predict natural phenomena--including global change--more accurately, and conduct structural, thermal, and computational fluid dynamic analyses on propulsion systems related to Station, Shuttle, and launch vehicles more accurately. Supercomputers enable the Agency to conduct increasingly complex analyses faster and more accurately.

NASA's supercomputing configurations are optimized for specific research and science applications. For example, for scientific problems involving extremely large quantities of data, collocation of data and processors is important because currently available network bandwidths do not readily support data rate requirements. In addition to mission oriented computing, NASA conducts research , in conjunction with other federal agencies, on next-generation supercomputing. This research often results in early-generation systems which are somewhat unreliable. The criteria for selecting these systems are based on increasing computer speed, not traditional operational supercomputing measures of goodness such as reliability and performance per dollar. This activity is fundamental to enabling essential research in the future and critical to preserving US dominance in high end computing and computation. Mission objectives such as true global weather modeling, complete solutions for aircraft drag and turbulence, and "thinking" spacecraft require a quantum leap in computing capability.

Because of the diverse missions and uses for supercomputers within NASA, NASA's efforts to consolidate management of supercomputers are dictated by mission needs. NASA must retain the flexibility to implement capital planning and investment strategies that satisfy the needs of its various missions.

In FY 1993 - FY 1994, the Offices of Aeronautics and Space Flight each consolidated supercomputing capabilities and investments, saving about $35M through efficiencies and cost avoidance. As part of ZBR, NASA determined that more savings could be achieved by consolidating management of all NASA's supercomputing resources. A supercomputing study team addressed the optimum balance between savings and the ability to provide essential computational capabilities.

In the January 1996 Implementation Plan for Consolidated Management of NASA Supercomputing Resources, all major supercomputer systems were inventoried and a decision made to focus initial consolidation efforts on those supercomputer systems which provide production services. To create efficiencies and reduce operational costs, particularly workforce costs, associated with supporting multiple supercomputer operations centers, the study recommended reducing the number of these centers from 7 to 3 beginning in FY 1997. Twelve of the 29 supercomputer systems required further study to determine if consolidated management was appropriate.

In July 1996 the NASA Chief Information Officer (CIO) and NASA's CIO Council met to assess the status of supercomputing consolidation. They directed the preparation of a top-down NASA management plan, with expanded scope, to consider all supercomputing assets under consolidated management. The plan is due in October 1996.

Center and Facility Consolidation

Since efforts began in 1993, NASA has made considerable progress in Center and facility consolidations. These consolidation efforts were subsequently integrated into the Zero Base Review. The most recent NASA Facility Closure Plan reflects an 18 percent reduction in the current replacement value of NASA facilities through FY 2000. NASA will continue to seek ways to achieve the Agency's ultimate goal of a 25 percent reduction. However, these efforts may be tempered by the fact that past reviews as well as more recent assessments show that further current replacement value reductions would have significant program impacts.

With respect to NASA efforts to reduce the amount of space leased by the Agency, our near-site leasing reductions are planned to save approximately $40 million per year by FY 2000 with personnel moving on-site where feasible and cost effective. Of particular note, the number of trailers and modular structures, which are very inefficient to use, has decreased from 620 to 372 structures, a reduction of 60 percent.

NASA has made progress in closing, or transferring to another owner, a number of major sites. These completed closures and transfers include: Edwards Test Station, CA, closed in 1995; Slidell Computer Complex, LA, closed in 1995; and, Yellow Creek, MS, transferred in 1996. There have been 14 wind tunnel closures since 1993. There are currently several sites under study for closure or transfer in California, including: the NASA Industrial Plant in Downey, Crows Landing, Santa Susanna, and Palmdale. These closures have been important steps in the process of focusing program management functions at the Centers and eliminating unnecessary redundancy in the Agency.

On-site facility reductions include facilities and parts of facilities that are converted to either reimbursable, standby, mothballed, abandoned, or demolished status. NASA anticipates total cost savings from these reductions of approximately $248 million through FY 2000. Most of the resulting savings come from four centers: Goddard Space Flight Center, Johnson Space Center, Kennedy Space Center, and the Jet Propulsion Laboratory.

Environmental cleanup remains a major consideration in future closures. In order to close facilities, NASA must comply with a variety of statutes and regulations, including the National Environmental Policy Act. In addition, in certain instances, facility closures may require addressing historical preservation or archeological resource concerns.

NASA and DOD Cooperation

There is a long history and tradition of cooperation between NASA and the Department of Defense (DOD) in the areas of aeronautics and astronautics. The Aeronautics and Astronautics Coordinating Board (AACB) is the senior management review and advisory body internal to the DOD and NASA to facilitate coordination of aeronautics and space activities of mutual interest. The AACB, established in 1960, is currently co-chaired by the NASA Deputy Administrator and the Under Secretary of Defense (Acquisition and Technology).

In response to continually declining budgets and manpower reductions, in September 1995 NASA and DOD undertook an intensive effort to identify areas for further cooperation. The specific objective of this initiative was to achieve significant reductions in investment and operations costs and enhanced mission effectiveness and efficiencies through increased cooperation among NASA and DOD activities at all organizational levels. It was agreed that this effort would be under the auspices of the AACB.

Work was organized under seven jointly staffed integrated product teams reporting to the AACB. These teams addressed the following areas:

1. Technology and Laboratories;
2. Space Launch Activities;
3. Satellite Telemetry, Tracking and Commanding;
4. Base/Center Support and Services;
5. Major Facilities;
6. Personnel Exchange; and,
7. Interagency Agreements.

The integrated product teams reported their findings and recommendations to the AACB on April 29 of this year.

While there were some noteworthy exceptions, because of extensive past efforts, few additional large and obvious areas for significant near-term savings or improvement were identified. However, there were numerous recommendations which, when implemented, can avoid or reduce costs in future years. Implementation of other recommendations will lead to identification of additional areas for cooperation. For example, recommendations in the area of technology planning will lead to enhanced cooperation in future technology development activities.

It is envisioned that greater streamlining can be achieved through increased reliance on one agency or the other for primary leadership in designated technical and operational areas. It must be explicitly recognized that such cooperation could lead to interdependency in which unilateral decisions by one agency would impact the other. Therefore, integrated planning will become more important, and it needs to be understood that cooperation carries its own price in terms of management complexities at all levels of program oversight--from formulation through execution. Where significant benefits will accrue, we will continue to work together to meet these challenges.

Progress toward implementing the teams recommendations will be monitored and reported periodically to the AACB by its standing Panels on Aeronautics, Launch Systems Development, Spacecraft Technology, and Space Communication and Operations. A summary report on these most recent NASA/DOD cooperation initiatives is currently in preparation by the AACB and will be available within the next several weeks.

The Major Facilities Integrated Product Team (MFIPT) is an example of further efforts to increase cooperation between NASA and DOD. I would like to share this team's specific activities since they will have a bearing on further efforts to reduce infrastructure.

Major Facilities Integrated Product Team (MFIPT)

The MFIPT addressed the major facilities at NASA centers and DOD installations including major wind tunnels, air-breathing propulsion test facilities, rocket engine test stands, space environmental simulation chambers, hypervelocity ballistic range/impact facilities, and arc-heated facilities.

To increase cooperation, the MFIPT recommended the institutionalization of DOD and NASA alliances in the six major facility areas of this study activity. The alliances will foster greater efficiency through sharing new technology and processes, pooling and integrating resources, and initiating enhancements to satisfy partner requirements. The goal is to reach the minimum number of facilities required to accomplish the necessary research, development, testing, and evaluation while maintaining or regaining critical facility capabilities. Specific alliance activities will include coordinating test schedules, downtime, and facilities workload; integrating NASA and DOD requirements; developing facility specialization plans; coordinating capital investment and modernization programs; sharing expertise, personnel, and equipment; and promoting industry cooperation and involvement.

It should be noted that a significant proportion of NASA and DOD plant and test cells are fairly old. There is cost avoidance from eliminating modernization requirements on the facilities being closed. However, as consolidation occurs, stress on the remaining facilities will increase, leading to higher modernization requirements for those facilities. There is also an initial capital cost involved in consolidation of activities, for moving personnel and equipment. Consolidation savings will be partially offset by consolidation costs and the need to modernize.

The AACB accepted the MFIPT recommendations for the formation of the major facility alliances, and specifically, to establish a National Rocket Propulsion Test Alliance (NRPTA). The NRPTA is organized for the purpose of shaping the government's rocket propulsion test capability to efficiently meet national test needs through intra- and inter-agency cooperation. Stennis Space Center (SSC) is expected to become a central test services provider to NASA, the DOD, and commercial developers for rocket testing. SSC would provide test services across the full range of rocket components, engines, and stages in support of rocket systems development, certification, and flight support. SSC would also provide a central entry point for test requirements and funding, and would ensure consistent practices in costing, estimating, control, and reporting.

A major product of the MFIPT activity was the development of an automated inventory of major facilities. This standardized source of data on characteristics of major facilities is now publicly available and is listed on both the NASA and DOD Home Pages on the World Wide Web. This listing provides significant information on facilities characteristics and their operational status. We have invited the Department of Energy and Federal Aviation Administration to participate by including their facility data in the same standardized public inventory. These agencies are in the process of updating and adding their data to the system.

In closing, significant progress has been made to date on center and facility consolidation plans, and, as the NASA/DOD joint activities proceed, further savings and benefits will be realized.

Mr. SOUDER. Thank you very much for coming. Can I—there are several different ways we could go here, and I want to personally commend you for, I know, having taken a job that you knew from the beginning was going to result in consolidation and obviously there were going to be political toes you were going to step on through that process. And I commend you for your efforts. I know we have talked several times.

I wanted to come back to a broad question, first off, and that is, some of the questions of how much structural consolidation can there be in areas like telecommunications, like with DOD? Are we going to reach some point where national security and scientific conflict hits a baseline?

Mr. GOLDIN. Let me tell you the issue I believe we have here. There is incredible intent and goodwill between the DOD and NASA. As—in my life in industry, I designed a lot of defense systems and I am very close with the people in the DOD. I have tremendous respect for what they have done. The relationships couldn't be better. We have reconvened the AACB, the Aeronautics and Astronautics Coordination Board. We know what we have to do.

But here is the problem: The NASA budget gets set up by one set of committees. The DOD budget gets set up by another. If we decide to go save some money and do some things, all of a sudden an independent action could take place.

Let me give you an example. We had a joint hypersonics program with the DOD. I struggled with it; the Secretary of Defense struggled with it for a number of years in two different administrations. Finally we threw up our hands and gave up because sometimes the NASA committees would cut the budget or the DOD committees would cut the budget and we could never get the same budget to work it. A lot of ill will developed for a reason over which we had no control.

So I would say, if you would like to see a consolidation occur, which can occur, before we address the consolidation, we must address the budget process. It is very dysfunctional to have good people work day in and night out and day in and night out to try and do the right thing, only to see it vaporize due to some issue other than the issue you are working on.

To me, that is the core issue. But the intent is there.

And I want to say, there is one good thing that happened. We now have at NASA total responsibility for the reusable launch program, I mean womb to tomb. The DOD has total responsibility for expendable launch vehicles. We have made progress, but I think we could make more progress and we could address the first issue that you brought up.

Mr. SOUDER. It is—I mean, I know it is only one of so many different issues, but I think it is an important one. This subcommittee has jurisdiction over Defense as well as NASA, and if there is a way that you see we can help in that process, be sure to point that out.

I know I had the—I am hardly experienced at this, but I did have the privilege, when I was headed to the Notre Dame game, where they unfortunately lost to Florida State in the Orange Bowl, and got to visit and see a rocket launched. It is clear how closely you have to work together because it was over a—it was monitored in the DOD facility. We were on the Air Force base and then we spent the other time over in the NASA.

So clearly you are doing that on a large scale all the time, and if there are ways that we can try to facilitate that—we obviously have troubles in the budget process.

The earlier comment about the ability to forecast is certainly a dramatic problem in any research area, whether it is NIH or here or whatever. But the Constitution says you can only bind Congress for 2 years because that is how long we hold our office. So there are limitations, but maybe we can work through some of those with you.

Mr. GOLDIN. We will live with that and I will take the challenge up. What I will do is, General Dailey heads up the—cochairs the AACB for NASA, Dr. Kaminski cochairs the AACB for the DOD. We will ask them to take it up at their next meeting and see if they can come back with some very specific requests for help from this committee. I like the idea that you like to help us.

Mr. SOUDER. One of the things that—and if you can give us other guidance, also, as to how to go through some of the land mines. I am committed to trying to see a space program go forward. It is very difficult, when we are moving toward a balanced budget and, trying to get there, to not sacrifice. I mean, we see—I have met so far with people who are dying of AIDS, people who are dying of breast cancer, people who have had transfusions in the blood supply because we weren't careful enough.

We look at how much can somebody live on, our housing—large buildings in Chicago and New York and other places are falling apart. We look at the Defense budget, trying to contract, and we see lots of places and we want to keep as strong a space program as we can. That is important for us to try to help figure out anywhere where you are running into the political problems, or infrastructure questions and so on. The basic goal is to have a forward-looking program, not one that is spending so much time trying to figure out their environmental problems, trying to figure out the base closure—the equivalent of base closure problems or personnel problems that you can't focus on what your mission was.

So we will, I am sure, come back for more questioning, but I will yield—unless you want to make a comment on that and then we can go to Mrs. Thurman.

Mr. GOLDIN. Let's see. I am thrilled to see the level of cooperation. I deeply believe we can do it.

I know that the folks from the GAO expressed frustration it wasn't happening fast, but I think—every time I have seen the Congress, the administration and the executing agencies get together, I have found we have made progress. And we didn't get that kind of cost savings without that kind of consultation, and I think this is an area ripe for cooperation because I believe doing civil space helps strengthen the Nation with just basic technologies. We can come up with some suggestions.

Mr. SOUDER. Mrs. Thurman.

Mrs. THURMAN. Hi. We are very glad you could come today and hopefully clear up—and I appreciate your comments about working together, because I think that is always important in how we do this.

One of the issues that has been talked about, and I guess that you actually at NASA have asked, is that you would be given the opportunity to do a buyout on personnel. Has that authority been granted to you as yet. Do you see that as a major savings for you?

Mr. GOLDIN. I hope and pray that we get the ability for a buyout. You know, there is a lot of talk about Government workers.

Mrs. THURMAN. Sure.

Mr. GOLDIN. There is a connotation—I have a dear friend who came to Washington. He has a ranch on the Pacific coast, and he had a very negative view. He came and talked negatively. And I said, let me introduce you to some of these people.

He couldn't believe how late at night the lights blaze in their offices, how early they come in and how hard they work.

I have worked in industry for 25 years, and I want to tell you I find the Federal employees to be really dedicated, those at NASA. They work very hard and they ought to be treated with dignity.

I am doing everything humanly possible to avoid forced layoffs, and I am proud that we have downsized about 4,000 people, or 17 percent of our staff without a forced layoff. One of the tools in our quiver is a buyout.

Mrs. THURMAN. Right.

Mr. GOLDIN. Our population is aging fast and we decided not to hire, which is a very difficult decision because we are dedicated to our people. I plead, I plead with the Congress, to give us the buyout opportunity. Every person that takes a buyout is one less person that has to face a forced layoff. So I hope by the time the bill gets signed and the President signs it that we will have a buyout in our bill.

Mrs. THURMAN. Well, and it also provides us with greater savings, which is the point of what——

Mr. GOLDIN. Yes.

Mrs. THURMAN. So it is a win-win. I agree with you; I think we have wonderful Federal employees. I think they do a very, very diligent job and work very hard.

So, Mr. Goldin, let me ask you another question that I think that all of us need to understand and appreciate, because we have talked about buyouts. We are talking about your Zero-Base Review and this—and consolidation and all of those kinds of things.

But I think everybody has alluded to it. Tell us or describe to us what you see NASA's goal is, or what they are going to be in the 21st century. I think it is important for us to understand why these programs or why we are here discussing this and why many of us continue to support you on the floor. What do we tell the American people?

Mr. GOLDIN. I will make it very simple. NASA is one of the few things that we as a nation do that is a direct investment 20 years from now. We answer fundamental questions, and let me list the seven questions for you. First, how do galaxies, stars, solar systems, and planetary bodies form and evolve?

Fundamental to the knowledge of physics and chemistry and biology, we rewrite physics and chemistry textbooks. Never forget, a nation that understands how to do that is a nation that can apply research. We answer questions: Is life unique to planet Earth, however low, even a single cell, carbon based or not—very important from an intellectual and also from a biological standpoint. Evolutionary biology, I believe, ultimately is going to have its home base at NASA. Cellular biology clearly has support but evolutionary biology is very, very important to the total knowledge base.

Third, can we build predictive models of our environment? How do the oceans, atmospheres and land interact? And can we build mid- and long-term models so we can better manage our resources, better harvest our crops, better avoid natural disasters?

How do you use the uniqueness of space to do biomedical and physical and chemical research?

And how can we make our airplanes safer? How can we make our airplanes more economical? And how can we make them quieter and compatible with the environment and regain 10, 20 points of market share in a trillion dollar marketplace?

Then, how do we communicate this knowledge to the American public and how do we hold what's important to America on certain things and share on others?

And finally, how do we use this to enrich the life of Americans?

That is why we have a NASA. And I want to tell you, I left industry, I left my wife and our children on the west coast because I believe in the future of this country. And when the history books are written some 50 years from now, as we transition from the 20th century to the 21st, I believe NASA will be one of the major, major impacts on the future of this Nation.

Mrs. THURMAN. I think he clearly knows where he is going in the 21st century and why.

Mr. Schulz, let me give you an—or Mr. Holz, let me give you an opportunity, because there has been a lot of conversation about the cost-benefit and differences and changes. Can you explain where you think some of the difference between your cost-savings figures and those of the IG or GAO and how they have reconfigured these?

I mean, there is—obviously, there is some difference of opinion here as to cost savings. Can you kind of give us an idea where—just give us some idea of what you think the differences are?

Mr. HOLZ. All right. Let me tell you a little bit first here. I want people to understand that from the very beginning, we have had a very open process with the IG. This is not things where we went off in different directions——

Mrs. THURMAN. Right.

Mr. HOLZ [continuing]. And concealed information from each other. This is something, as we discovered information or as our calculations became available, we made this information available to the IG staff as quickly as we possibly could.

I come from a background of public accounting. I have 14 years with an international accounting firm and 23 years in Government, all dealing with accounting, auditing, and financial reporting. So I understand the importance of full disclosure, so that we do avoid confusion and we try to search out—as we try to search out and communicate the right results to people so an appropriate investment can be made.

The reports that took place between the Office of the Comptroller, or the CFO's office, and the IG's office, I do not look at as though they were final reports, any one of them. They were all drafts. Most of them were labeled as drafts; and it was an interim process where, as we gained information, we put it down in a format and shared that information. We changed it and modified it as it was appropriate to do.

If the IG did come to us with some information that caused us to change some of our assumptions, when we did that, the numbers changed. There are other areas where we—we are just at professional disagreement about it.

I don't know what else to say about that except that is what's going to happen. We looked—there are three major factors that go into this and everybody has talked it pretty much to death, but let me just mention it again briefly. One, there is the question of changed management, the management of change, a new way of doing business. We have to look for these opportunities.

I did not mind—I did not involve myself in the issues of the people that view so much the change issue because you have to accept that from the very beginning. We are being driven by budget. We do have to find ways of using our resources better. I did look. I did look.

Then the other two elements that are left are technical feasibility, and then you have to do some analysis about cost. I did not attempt to go out and do a detailed, in-depth analysis. I have done these things before and opined on them when I was in public accounting. You do it—you do a reasonable analysis of what you think cost savings are. It is a macro process. You are trying to assist and serve management in arriving at a decision. Then as that decision is made and you begin to roll it out, you fine-tune it.

So in that process of playing with preciseness, the area of judgment concerning technical feasibility and mainly the effect that people—some of the detail people are doing, the aircraft maintenance and that kind of thing, the emotional state of the people plays into it and that all has a cause and effect on it.

I don't know if I have been responsive to you or not, but I am doing my best.

Mr. GOLDIN. Let me say, at the bottom line, we are not going to move the planes until we come a little bit closer to resolution. And the sense that has been going on throughout this is that the planes are moving. Throughout the process, we have not moved the planes and I think that is a very important factor to understand.

The other factor is, it looks kind of messy. It is like watching sausage being made.

Mrs. THURMAN. I have used that analogy, too.

Mr. GOLDIN. We are an open society and we have to be able to withstand the openness here, and it is going to look messy. But the thing we try and avoid is having this real negative adversarial relationship, although I have to admit we are human beings and emotions do spike. But for the most part we try and do it on a professional basis, and we will resolve this before we go gassing up the planes and moving them.

Mr. SOUDER. On behalf of the Notre Dame alumni of America, I wanted to know from Mr. Holz is Randy Kinder going to be able to play Saturday?

Mr. HOLZ. I don't want to study it for 2 years, but just give me a little while and I will get back to you.

Mr. SOUDER. Mr. LaTourette.

Mr. LATOURETTE. Thank you, Mr. Chairman. I want to begin with just commenting to Administrator Goldin that during my short time in Congress, I haven't had greater cooperation from an agency than I have had from you personally, and I appreciate the time that you have taken to talk to me and other Members of Congress about ZBR and some of the other issues that affect us.

I think I fully recognize it has been—we have sort of danced around the issue with all three panels today. We have said, pressure from Congress, and I think we all know what that means. And you have received as an agency a directive, either from the White House or Congress, that this is what your budget is going to be and it has gone down; and I think your chart dramatically demonstrates that. It is for you to figure out where those savings are going to occur.

But it is the old story that if it occurs in my district, or in someone's district, well, I didn't think you were going to save money there. I thought you were going to do it someplace else.

The purpose of—when the inspector general was giving her testimony, though, and one thing that I did want to drive home and I believe that your—well, you are a fine administrator and I know that you will take those, the things mentioned in her report, to heart. But what really concerned me about the fire station, and I know that you can't, when you are trying to save billions of dollars, be concerned about $4½ million at some fire station in Lewis.

But my observation—and if you want to comment on it, fine; if you don't, that is fine too—was that because of the pressure you have received budgetarily to come up with ZBR and achieve these savings, and that pressure was tremendous, the pressure then is transferred from headquarters to the centers and the other things within your jurisdiction. Then the centers have to begin putting pressure on, among other things, the wonderful Federal employees that are under their care and supervision.

At least in this case—I brought up the fire station, I think, to demonstrate that in this case, when we got down to that level of pressure, things could have gone better. And I believe you when you say that you won't save a buck and compromise safety, because I don't think anyone——

Mr. GOLDIN. Intentionally. We can't be accused of malice, but we can be accused of stupidity sometimes.

Mr. LATOURETTE. Sure. I just know from talking to Lisa and some of the other folks out at NASA that if they had been in the loop and said, here is what's happening, this whole thing would have gone a little bit better.

And what distressed me is, when I went out in November, they said, the transition is in place and the Brook Pike Fire Department is going to take care of this, Cleveland, that. But then to find out that that first meeting didn't take place until 5 months later, that is a little distressing, and that heightens people's apprehension.

But I want to commend you on what you have done, and I wouldn't have your job for anything, to tell you the truth.

I do want to ask General Dailey just a question, if I may, about the aircraft consolidation, if you are the appropriate person to ask and if that is appropriate?

Mr. GOLDIN. Yes.

Mr. LATOURETTE. I made reference when the inspector general was talking, I have summaries of 13 different reports on aircraft consolidation going back to November 1993. Each one comes up with a different—I mean, each one studied something different from time to time. The overall picture that I get is that we have a lot of different observations based upon different criteria, different conclusions. It depends who the author is; it depends on what data they are looking at.

There will come a time when the agency is going to have to make a decision, do we consolidate or don't we consolidate? How is someone reviewing that decision, be it the inspector general or be it Congress or be it—I understand you are not in favor of a BRAC, but some commission? How are we able to—ever going to be able to compare apples and apples based upon this sort of hodgepodge and muddled condition that we find this aircraft consolidation picture to be in?

Mr. DAILEY. We think that we have a management structure in place that we can make these types of decisions based upon the information that we can get for ourselves. As Mr. Goldin pointed out, we don't hire somebody to come in and do an analysis. We send knowledgeable people who are in responsible positions and who are going to be held accountable for the outcome to go out and do an analysis of what it is we need to do, and that is what was done in this case.

By the way, there are many other aircraft consolidations than the one you mentioned. But you are absolutely right, it depends on who did the study. If Ames did it, they should all be at Ames. If Wallops did it, they should all be at Wallops. This is an emotional issue and it is one where people are very closely tied to the aircraft, the assets involved.

Mr. LATOURETTE. One of the things—if I can interject, one of the things that I found lacking in some of the observations, and I know I am going to something else, for instance, if this DC–9 and microgravity goes down to Johnson, there is no provision that—Johnson is going to have to build something that doesn't exist already. And that needs to be factored into the equation.

So the tricky part is how we ever get to that apples-and-apples thing, and I hope you all can agree on it, because you obviously are a lot smarter than I will ever be. So I hope that some day the inspector general, the agency and anybody else who is looking at it and reviewing it can agree on a formula that we say, here is a number, here is what we all are going to say it is, and we walk away from it.

Do you think we will get there?

Mr. DAILEY. I think so. That is our intent. And if I may just comment on the DC–9, one of the ways that you do save money is to reduce the number of types of aircraft you have. That is the single DC–9 that we have in the agency. So if you reduce a type, you have infrastructure that goes with it, because there are specialists that are going to have to work on that airplane.

Mr. LaTourette. Sure.

Mr. Dailey. So that is one of the major considerations. We are looking for a better way to do it, and we have existing assets at Johnson that may provide that capability for us.

Mr. LaTourette. One of the things that hasn't been brought up, and when Mr. Goldin was going through all the things that the agency stands for—and they are tremendous—and why you get parochial concerns. I think, from Members of Congress, it isn't that we are greedy, but in each area where you have a center, there is an explosion of dual-use technology that translates not only into what you are doing in space but what our industries and businesses, small businesses—small and large, and it has a tremendous impact. You have a tremendous impact on every community involved in it, and that is why I think you see this tug of war that puts you all in sometimes a very tenuous and uncomfortable position.

Thank you, Mr. Chairman.

Mr. Souder. Thank you. I have a couple of additional questions.

One is that I want to compliment you on how aggressively you have tackled the budget question. Whenever you go in, like you say, you are going to charge in and you are going to break some glass and then you hear all the fallout from breaking the glass. But in the budget process, from what I can tell, you have actually—you have seen what's coming and made the requests accordingly.

What was your request this year? Was it——

Mr. Goldin. $13.8 billion.

Mr. Souder. $13.8 billion. And you felt that you could achieve your goals by aggressively—I mean, obviously everybody wants more money. But part of your training is to try to get down and to reach your well-stated goals earlier with the budget balance problems.

Now, in the telecommunications, to some degree in the aircraft, one of the charges that was made by GAO is that you had a particular site do the forecasting as opposed to across the board. Could you explain your rationale? Is that partly because you said, you don't have a lot of time to fiddle around in the budget process and you have got to charge ahead and you felt that would be best? Why would you have excluded others and could you give us some rationale behind the process——

Mr. Goldin. Sure.

Mr. Souder [continuing]. Not the particulars so much?

Mr. Goldin. One of the things that we are trying to do that is very different now, it's called "design a little, build a little, test a little," "design a little, test a little, build a little," "make programs smaller, get prototype hardware," instead of waiting a decade and having thousands of people doing a lot of detailed design work, build scale models and fly them. We now have some spacecraft that we could go from design to launch in a year. It used to take us a decade to do those things.

We are also applying that principle to downsizing, and let me give you an example: the wide area network. And I think this was a question of a communication process. Instead of having a comprehensive study across the agency on how much money we could save, which we knew we could save on wide area networks, we

BOSTON PUBLIC LIBRARY
3 9999 05983 654 2

said—we had five independent networks; let's consolidate two of them right away at Marshall, because there are two of them there.

We thought that we would make them the Center of Excellence in any case, and we said there will be one place for wide area networks, NASA Marshall. They will have management responsibility. Let's give them an open book quiz and see how they do.

I know it may have hurt the feelings of some of the other centers, but you cannot run an organization with always having consensus and having people feel good and nice about what they are doing.

So we said, let's see what Marshall could do. If they do it well, let's give them all of them. If they do it OK, let's find out the lessons learned. And maybe, if they have a problem, let's see if someone else could do it.

So we took the first step because the problem is, each year the budget goes down and if we take too much time planning, we will not be able to meet the budget requirements by cutting infrastructure and we will have to cancel programs. I am very proud that we didn't cancel any program that wasn't in cost trouble, wasn't in schedule trouble or didn't meet its commitment to the American people.

The other thing I would like to point out is, I don't know after we—after we did the replanning on our programs, I don't know of any program we stretched to save money.

So that has been the principle and the design. In the technical area, we said, let's apply it here. And that is how we applied it to the wide area network. So we put them in charge.

In the case of computers, we said, we have operational computers and research computers, and 40 percent of the computers were not part of the initial analysis because we said, let's handle the operational computers first. So you pick someone and you put them in charge.

Again, as Administrator, I can't run a competition to figure out who's going to be in charge. I know the people we have. I know who I have confidence in. We give people responsibility, but with responsibility comes accountability, and if you don't perform, then you have to have the consequences. This is not a place where we come to play games. We really mean the issue of accountability. So if we make a decision and one center doesn't perform, we will transfer it to another.

One of the things we try to keep in mind is the issue that Mr. LaTourette brought up. We had each of our centers doing exactly the same things as other centers, trying to have—they had marketing teams getting business in. It was a waste of taxpayers' dollars. So what we decided is, we would appoint Centers of Excellence, and we said those centers would have those missions.

We met with the entire NASA team over a period of a year to pick the Centers of Excellence, so as we picked the team leaders, we would go to the Center of Excellence. If they don't perform, then we reconsider the Center of Excellence.

The other thing we are going to do is, we are going to ask for a peer review every so many years to establish that this Center of Excellence is not just the best in NASA, but among the top in the country, in the world. So that is the process we use in making the decisions, and it is not a democratic process.

Mr. SOUDER. Do you have any additional questions?

Mrs. THURMAN. I do have one that is pretty parochial after the discussion, but I have got to ask it, being from Florida.

What do you think is going to happen to the Kennedy Center in Florida?

Mr. GOLDIN. I think——

Mrs. THURMAN. I had to ask it, you know.

Mr. GOLDIN. The Kennedy Center has wonderful people. They are really talented. They haven't been involved in new launch activity on a new system in over 25 years, and they love the Shuttle. I love the Shuttle, but I want to see competition.

We have gone forward with a new concept called the X–33, which is a single-staged orbit. We have an X–34. We hope to have an X–37, an X–38, an X–39 for American supremacy in launch in the 21st century. We are going to help work with the Kennedy people and get them involved in these new programs to get their hearts pumping.

We have appointed a contractor, the United Space Alliance, to manage the Shuttle and we have challenged United Space Alliance to see how they could make the Shuttle safer, two, three times safer, and drop the cost to compete with these new vehicles, and I think we have a wonderful opportunity.

From a geographic standpoint, you have nothing to worry about at Kennedy. It is the most southern point and it is on the Atlantic Ocean and because of the way the Earth spins, you want to launch east. So I have no worries for NASA Kennedy.

However, I want to hold the employees, both NASA and contract employees, accountable; and understand, it is taxpayer dollars, and we don't want to finance inefficiency. I don't think there is bad intent, but because we haven't sharpened ourselves over the years with new launch systems, I love the idea that we are going to get a single contractor, USA, to consolidate tens of contracts and hold the CEO of that company personally accountable for safety.

Mrs. THURMAN. I don't disagree on efficiency. I think it is all what we recognize has got to be done for the future.

Mr. SOUDER. Mr. LaTourette.

Mrs. THURMAN. Thank you, Mr. Souder.

Mr. SOUDER. Mr. LaTourette, do you have any additional questions?

Mr. LATOURETTE. Just one, Mr. Chairman, and it will be real short.

Just so I leave this hearing with a firm understanding of what I heard, General, if I could ask this question of you. The comment has been made a couple of times that on aircraft consolidation the planes aren't going to go anywhere. And I guess my question is until—is there a next step? Do we need another report? Are we going to go back and do something else? Or are they never going to go anyplace? Which I assume is not what anybody meant to say.

Mr. DAILEY. We don't need another report, and we don't need any more analysis. I think that we have all the information that we need and we have refined it and are continuing, by the way, to refine it. The decision is still to be made, though, as to whether we are going to do it. But I don't think that any more studies are necessary to come up with that decision.

Mr. LaTourette. Do you have any idea as to a timetable in which that—when that decision would be arrived at or achieved?

Mr. Dailey. By the end of the year.

Mr. LaTourette. Thank you very much, Mr. Chairman.

Mr. Souder. I would hope, if it would be OK, if we could supply additional written questions if we have some additional?

Mr. Goldin. Absolutely.

Mr. Souder. Mr. Goldin, I want to thank you. I know you are—as we get into the type of budget changes we are making in America, we need people like yourself who are willing to roll up their sleeves, go charging in, sometimes make arbitrary decisions. We will have to figure out how we finesse this on the political end and you are learning some of that, too, as you go.

Mr. Goldin. Whomp me on the head if I am wrong.

Mr. Souder. I appreciate your willingness to do that. If you want to make a big news story right here at the end, is there life on Mars?

Mr. Goldin. We are going to leave that to the scientific community.

Mr. Souder. Thank you very much for coming today. The hearing stands adjourned.

[Whereupon, at 1:30 p.m., the subcommittee was adjourned.]

○

ISBN 0-16-055811-5
90000
9 780160 558115